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MASSIVE COLLAPSE OF THE LUNG FOLLOWING CHILDBIRTH*

Report of Two Cases

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POSTOPERATIVE massive collapse of the lung is not a rare pulmonary complication. During the past ten years increased recognition of this condition has occurred and valuable contributions to its etiology and treatment have been made. This lesion has occurred not only after various types of abdominal and pelvic operations but also as a complication or accompaniment of various widely separated disease conditions.

Pasteur[1] was the first to recognize and describe the postoperative variety. He also was the first to mention the cardiac displacement as a cardinal sign. For a thorough historical survey of the subject the reader is referred to the excellent discussion of Bowen[2].

Collapse of the lung has followed such neurological complications as postdiphtheritic phrenic paralysis[3], meningitis[4], and poliomyelitis[5]. During the war the condition was recognized following chest wall wounds[6], many of them superficial and sometimes with collapse on the side opposite the wound. Even injuries of the extremities were in some case inciting causes.

One might expect this complication to follow such local procedures as tonsillectomy[7], bronchoscopy[8], or lipiodol injection of the bronchial tree[9]. Cases have been reported of massive collapse subsequent to these procedures. This condition has been associated with such conditions as aortic aneurism[10], carcinoma of the stomach[11], "pneumonia"[11], and lung abscess[12]. Campbell[13] has observed massive collapse of the lung after so relatively trivial an operation as circumcision.

There have been numerous theories as to the cause of this condition. Chief among these has been the paralytic theory as advanced by Pasteur[1], the infectious theory sponsored by Briscoe[14], the spasmodic reflex theory held by Bradford[15], and the various theories of bronchial obstruction with or without other causes. Certainly it has been shown that obstruction of a bronchus is one definite cause of collapsed lung. This has been shown by various animal experiments[16] and also by bronchoscopy [17, 18, 19]. In instances of collapsed lung in the human being the mucous plug has been aspirated followed by rapid re-inflation of the affected side.

A generally accepted explanation at present is that massive collapse is caused by the obstruction of the bronchus by mucus. Under these conditions the respirations may have become impaired so they are usually of a shallow nature. This allows the accumulation of mucus in the bronchus with resulting bronchial obstruction and collapse.

This general explanation can adequately explain massive collapse following various conditions or procedures. The details of many factors involved are still not entirely clear.

Clinically in the postoperative type of massive collapse there are two types; one in which cyanosis and dyspnea are marked and the pulmonary symptoms predominate, and less commonly a type in which there are few marked pulmonary symptoms. While pulmonary complications following childbirth are not uncommon, massive collapse as a puerperal complication is either rare or unrecognized. It is not mentioned as a postpartum pulmonary complication in the standard textbooks of obstetrics. The author has not found any cases in the literature which have been reported following normal delivery or after any operative obstetrical procedure.

During the years 1930-1933 inclusive, 8020 deliveries occurred at the Boston Lying-In Hospital. In this period excellent roentgenographic facilities were available and have been freely utilized in the diagnosis of various postpartum pulmonary complications. The two cases of massive collapse of the lung here reported occurred during the year 1933 and are the only cases which we have observed at this hospital. This would make an approximate incidence of one in four thousand deliveries.

CASE 1* C. R. Boston Lying-In Hospital:

A Para 2, aged nineteen years, entered the hospital March 23, 1933, at full term, in mild labor. This patient had mitral stenosis and regurgitation which was well compensated throughout pregnancy. Nine grains of pentobarbital was administered on

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admission. Under satisfactory analgesia the first stage of labor was progressive, requiring nine hours until full dilatation of the cervix occurred. At this time delivery of a normal full term infant was accomplished by low forceps and episiotomy under drop ether anesthesia. The patient had no unusual hemorrhage and made an excellent anesthetic recovery. Temperature was 98.6, pulse 100, respiration 20.

Twenty-four hours postpartum the patient's temperature became elevated to 101, the pulse to 122, and the respiration to 32. The patient complained of sharp pain in the left chest and of painful coughing with inability to raise mucus.

Physical examination showed dullness of entire left chest with displacement of the heart to the affected side. The cardiac impulse was palpated in the left midaxillary line. A clinical diagnosis of massive collapse of the left lung was made.

The confirmative roentgenographic examination was reported as follows: "Examination of the chest shows the entire left lung field obscured by dullness, uniform in character, obliterating the left border of the heart, left side of the diaphragm and the left costophrenic angle. The left chest wall is definitely contracted and the intercostal spaces are narrowed. The heart and mediastinal contents are displaced to the left."

Daily roentgenographic examinations were made which showed a tendency for the collapsed lung to reinflate at the apex. By these examinations the lung had cleared in fourteen days (April 6) and the mediastinal contents had resumed their normal position in twenty days (April 12).

Clinically the temperature, pulse, and respirations became normal on the fourth day following delivery. At that time all subjective symptoms had entirely disappeared. At no time did the patient raise abnormal amounts of mucus or mucopurulent sputum.

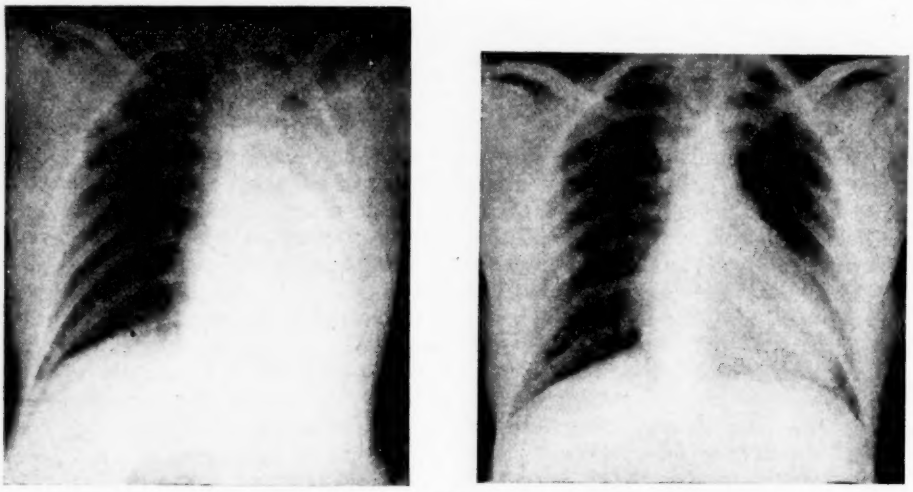

FIG. 1. Showing massive collapse of the left lung with displacement of the heart to the left. Almost complete reinflation four days later.

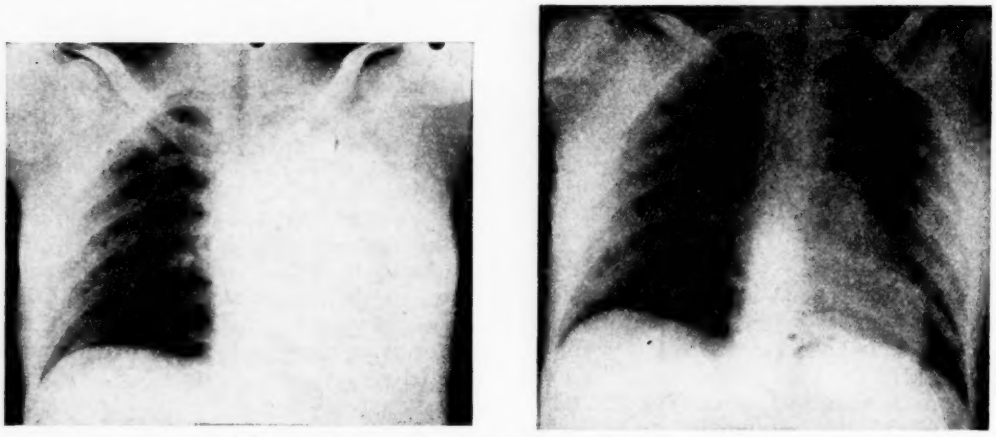

FIG. 2. Collapse of the left lung with slight residual atelectasis three days later.

The treatment consisted of rolling the patient from side to side every two hours during the period of subjective symptoms. She was discharged well from the hospital on the twenty-fourth (April 16) day postpartum.

CASE 2* B. K. Boston Lying-In Hospital.

Para 2, aged twenty-five years, entered the hospital November 22, 1933, at full term, in mild labor. Six grains of sodium alurate orally and 1/150 grains scopolamine hypodermically was administered on admission. Two hours later the patient received three grains sodium alurate.

She had a slow, progressive labor and was delivered by low forceps and episiotomy at the end of

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twenty-two hours. The anesthetic for delivery was nitrous oxide oxygen ether. There was no unusual hemorrhage, the condition of the patient excellent, and consciousness was regained in eight hours.

Twenty-four hours after delivery the patient experienced sudden respiratory embarrassment. She was slightly cyanotic and made occasional attempts to cough without result. Examination showed temperature 100, pulse 100, and respirations 32. There was definite dyspnea and massive dullness of the entire left chest. Immediate roentgen-ray examination was made (November 23) with the following report: "Examination of the chest shows the entire left lung field obscured by dullness which was almost uniform in density, obliterating the heart shadow and the costophrenic angle. The heart and mediastinal organs are completely displaced to the left. The left side of the diaphragm is high. The ribs on the left sides are elevated and the intercostal spaces are somewhat narrow. The right lung field is bright, probably due to compensatory emphysema."

Two days later beginning inflation of the left apex was evident both by changing physical signs and by roentgen-ray. On the tenth day postpartum (December 1) the roentgenograms showed the left lung fairly well aërated but with the left diaphragm high and the mediastinal contents not yet back to normal position.

Clinically the temperature, pulse, and respirations were normal on the fifth day postpartum, and all subjective symptoms had disappeared. The treatment consisted of the same methods as those used in Case 1. The patient was discharged home on the fourteenth day of the puerperium.

COMMENTS

These cases are reported because massive collapse of the lung as a postpartum pulmonary complication is either rare or is rarely recognized.

This condition is most likely to be confused with postpartum pulmonary embolus or pneumonia. Because of the extremely favorable prognosis of massive collapse as compared with the other conditions mentioned, it is important from the standpoint of both the doctor and patient that an accurate diagnosis be made.

The usual sudden onset, often acute respiratory embarrassment, the massive pulmonary involvement, and the cardiac displacement are features which enable the clinician to arrive at the diagnosis. The roentgenogram and the fluoroscope are of value both for confirming the clinical diagnosis and observing the progress of reinflation.

TREATMENT

The prevention of postoperative pulmonary complications has recently received considerable study[20, 21, 22, 23, 24]. Henderson[25] has contended that the use of carbon dioxide and oxygen postoperatively produced increased ventilation as a result of the accelerated respiratory rate and the greater depth of respiration induced. Therefore, the effect is to keep the lungs distended and prevent collapse.

King[26], in careful studies, was unable to confirm the value of carbon dioxide and oxygen in the prevention of postoperative pulmonary reactions. Other observers feel that it is of definite value. Bergh[27] considers hyperventilation as a transitory effect and advises the use of 10 per cent carbon dioxide in 90 per cent oxygen for three minutes postoperatively as a valuable prophylactic.

In general, three types of treatment have been suggested for this condition.

Tucker[29], Jackson[28], and other bronchoscopists[30, 31, 32, 33] have seen rapid and striking recovery following the bronchoscopic aspiration of mucus from the obstructed bronchus. Their direct observations have been of extreme value, especially in elucidating the mechanism of this condition.

Scott and Cutler[33] recommended the use of carbon dioxide and oxygen inhalations in actual treatment of the collapse. This not only relieved the anoxemia, they contended, but increased pulmonary ventilation which should aid in the dislodgment of the obstructing mucus.

During the fluoroscopic examination of patients with massive collapse, Sante[34, 35] noted instances of rapid reinflation which followed turning the patient from side to side. He therefore recommended this simple postural treatment with the idea of securing better drainage and mechanically loosening the obstructing mucus.

The simplicity of this treatment recommends it in this condition where the prognosis is good and spontaneous recovery is the rule. In our hands in these puerperal and other postoperative cases the method has been satisfactory. Therefore, in concurrence with Scheffey[36] et al., it does not seem that more heroic or complicated forms of treatment are usually indicated.

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UNDULANT FEVER: TWO CASES SIMULATING SUBACUTE BACTERIAL ENDOCARDITIS AND PULMONARY TUBERCULOSIS

BY NATHAN SIDEL, M.D.,* AND MAURICE S. SEGAL, M.D.*

TWO cases of undulant fever simulating subacute bacterial endocarditis and pulmonary tuberculosis are reported in order to emphasize the practical importance of this disease when considering causes of pyrexia. The accurate diagnosis of undulant fever was obscured in each case because of the findings which were consistent with more common diseases. In all probability, many cases of this disease have been overlooked when fever of a puzzling nature has been present and undulant fever was not considered. Only within recent years has attention been called to the facts that undulant fever may occur not infrequently in temperate zones; and may occur from infected cow's milk. Typhoid, tuberculosis and sepsis are the most common causes of persisting fever, but it is suggested that undulant fever be added to this trio and as a result the diagnosis will be made more frequently.

Although comparatively rare in this part of the world, this disease has long been present in endemic form on the Island of Malta. Undulant fever statistics as to incidence are not very reliable as it has been reportable in Massachusetts since 1930 and its number of cases[1] by years are 1930 (6), 1931 (15), 1933 (11), 1934 (15). In human beings it is a disease commonly found in farmers[2], laboratory workers and in those who used non-pasteurized, infected milk. The microörganisms isolated from these various sources were found to be identical as far as could be determined by ordinary culture methods by Alice Evans. It is the bovine strain that is responsible for most cases.

The nomenclature of the disease continues to be confusing because of the multiplicity of names. It has variously been called undulant fever, abortus fever, Malta fever, Mediterranean fever, melitensis fever, brucelliosis, etc. This report uses the term undulant fever because it is the one most frequently used.

CASE I. Beth Israel Hospital No. 24240.

S. K., twenty-two, single, white, male podiatrist, living in New Hampshire, was first seen by one of us (N. S.) on October 4, 1934, because of fever and drenching sweats of five days' duration. He had been perfectly well, except for chorea at the age of seven, until September 30 when he felt chilly and then noted fever of 103°F. There was no sore throat, pain, gastro-intestinal or genito-urinary symptoms. The outstanding symptom was the severe, drenching sweat that occurred several times during the 24 hours but, especially during the night between 11 P.M. and 3 A.M. The first examination showed a young man who was not toxic although he was definitely flushed. He was not in distress and was coöperative. The temperature was 102°F, the pulse was 96 and the blood pressure 120/70. The positive physical findings consisted of an early faint diastolic murmur in the third left interspace close to the sternum, a non-tender slightly enlarged spleen and a few suggestive petechiae over the abdomen and forearms. The white blood corpuscles were 7,000 per cu. mm. and the differential was normal. The urine and red blood count were normal. The tentative diagnosis was subacute bacterial endocarditis because of (1) a history of chorea, (2) a diastolic murmur, (3) an enlarged spleen, (4) fever, (5) possible petechiae.

Clinical Course:

During the next 16 days the temperature ranged between 98° and 103°F. but came down to normal by lysis over a period of one week. The temperature was of the picket fence type and usually highest between 4 A.M. and 8 A.M. The sweats were very marked but did not have any unusual odor. As the temperature began to subside, the intensity of the sweats diminished. Except for the drenching sweats, the only complaints were moderate constipation and slight anorexia. At no time was there delirium, arthralgia, headache, urinary symptoms or any pain. The striking feature was the comparative well-being of the patient even though the temperature was high. The pulse averaged 92. Repeated blood cultures were negative. The white blood cell count averaged 6500 per cu. mm. with a differential of polymorphonuclears 70-55 per cent and lymphocytes 20-38 per cent. To rule out pulmonary tuberculosis an x-ray of the chest was taken but was negative. The Widal tests for typhoid and paratyphoid were negative. The Kahn and Hinton tests were negative. The blood chemistry was normal. The urine sediments and stools were normal. The electrocardiogram showed a slight left axis deviation. The diagnosis of subacute bacterial endocarditis seemed most likely until further history was obtained. It was learned that the patient was in the habit of drinking "quantities of raw milk" in New Hampshire. Dr. Henry A. Christian was consulted and he felt that subacute bacterial endocarditis was the probable diagnosis but suggested ruling out undulant fever. A positive agglutination test for undulant fever was reported in the dilution of 1-3650 from the State House and later, 1-5120 from the U. S. Public Health Service. This test caused analysis of the case from the standpoint of undulant fever and the diagnosis was established. The diagnosis of undulant fever seemed

Since submitting this article one of us (N. S.) saw another case of undulant fever. This patient's source of infection was probably infected non-pasteurized milk.

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justifiable in view of (1) positive agglutination tests for undulant fever in high dilutions, (2) fever, (3) drenching sweats, (4) enlarged spleen, (5) mild symptoms with high fever, (6) history of drinking unpasteurized milk. With supportive therapy, the patient made a very uneventful recovery. The spleen was no longer palpable after the fourth day of normal temperature. There was a very mild attack of fever (100°F.) which lasted only a few days and occurred after 18 days of normal temperature. On November 27 the patient felt perfectly well and the examination was negative except for the diastolic murmur in the third left interspace. The agglutination test for undulant fever was positive through a dilution of 1-1215. The persistence of the diastolic murmur is probably due to a slight aortic insufficiency, rheumatic, compensated, which was either present before the onset of undulant fever or was precipitated by the attack of fever.

Differential Diagnosis:

Subacute bacterial endocarditis seemed the most probable diagnosis because of (1) fever, (2) a diastolic murmur in the third left interspace, (3) a history of chorea, (4) fever, (5) splenomegaly, (6) petechiae. However, several blood cultures were negative for streptococcus viridans, and the urinary sediments were negative for red blood cells. The fever in most cases of subacute bacterial endocarditis is insidious in onset and there is usually a prodrome of mild malaise of a few weeks' duration. In this patient the onset of symptoms was abrupt and the first known temperature was distinctly high. The diastolic murmur in this patient may be considered from several angles. Some authorities speak of the rare functional diastolic murmur but for practical purposes it is almost non-existent. The murmur may have been present prior to the onset of the present illness or the present attack of fever may have brought to the fore a quiescent or dormant diastolic murmur originally produced by the chorea.

Typhoid Fever. This condition is ruled out rather readily by the (1) absence of toxicity, (2) the negative blood culture and Widal, (3) the type of temperature curve in this patient.

Malaria. This diagnosis was improbable because of (1) the absence of regularly spaced chills, (2) the negative blood smears for the plasmodia, (3) the negative past history as to residence.

Tuberculosis. Against this diagnosis were the following: (1) the negative physical findings, (2) the negative x-ray of the chest, (3) the comparative well-being of the patient, (4) the sudden onset of symptoms.

Sepsis. This common cause of pyrexia was ruled out by (1) the absence of any local infection, (2) the absence of leukocytosis, (3) the absence of toxemia.

CASE II. From the Third Medical Service (Tufts) of the Boston City Hospital.*

J. F., twenty-one, unmarried white dental student, was admitted on October 4, 1934, because of intermittent periods of malaise, fever, chills and drenching night sweats which had begun about five weeks previously. During the past summer he worked as an assistant chef in a summer camp in the eastern part of New York state. His health was always excellent until mid August when he first noted low back pain, fatigue, and loss of energy. About this time he had a urethritis[3] which persisted for two weeks but his physician assured him that it was not specific. Late in August he complained of fleeting pains through both arms, aches in the back of the neck, some feverishness and chills in the evening. A few days later, in early September, he took to bed because of the early symptoms getting worse; chills at night, drenching sweats in the early morning hours, slight stiffness of the neck and shooting pains through the eyes on motion. He was in bed for a few days at a time in the next three weeks. On September 27 he felt well enough to return to school. However, he thought his "old cigarette cough" was much worse and on a few occasions he had epistaxis. During this time his sputum was blood-streaked but he was not certain whether this came from the nose or trachea. About October 1 he had general malaise, drenching night sweats and vertigo. On October 3, the night before admission, he had a severe chill lasting five minutes and followed by sweating. An x-ray of the chest was interpreted as suspicious tuberculosis and the patient was sent to the hospital for study.

The essential findings were as follows: A well-developed and well-nourished young male who did not appear acutely ill. T. 101°, P. 90, R. 22. The face was flushed, tongue clean, moderate cervical adenopathy. Slight dullness over right hilum but otherwise normal lung findings. B. P. 108/74. Heart examination was normal except for a functional apical systolic murmur. The spleen was just palpable but not tender. There was no skin eruption. The extremities and reflexes were normal.

Clinical Course:

The symptoms were essentially fever, drenching sweats, fleeting joint pains and constipation. No peculiar odor to the sweat was observed. The temperature rose to 101°-103° at 5 P.M. but was normal most of the day. After 20 days the temperature remained normal all day and after two weeks he was allowed up and about. The symptoms subsided and disappeared with the gradual descent of the temperature curve. On November 16 he was feeling well. The white blood count averaged 7500 per cu. mm. and the smear showed 45 per cent lymphocytes. The stool, urine, sputum, blood culture and Widal tests were negative. The agglutination test for undulant fever was positive in dilutions through 1-405 on October 19. A positive test in dilutions through 1-11,000 was obtained on November 2. Chest x-rays were variously interpreted but the final opinion was of a normal chest.

Differential Diagnosis:

Tuberculosis was the tentative diagnosis because of the cough, fever, sweats, blood-streaked sputum and suspicious x-ray findings.

*Reported through the courtesy of Dr. Cadis Phipps, Physician-in-Chief.

Typhoid fever was favored by the lack of leukocytosis, the spleen enlargement and cough. However, the patient did not look typhoidal, the Widal was negative and the temperature chart was not characteristic.

Infectious arthritis was favored by the joint pains and a rather unusual prominence of the proximal interphalangeal joints. However, the lack of leukocytosis, the fleeting character of the joint pains, the splenomegaly and finally, the positive undulant fever agglutination test ruled against arthritis.

COMMENT

Undulant fever as a cause of pyrexia should be considered as part of the differential diagnosis in every case. In all probability, many cases have been overlooked because another diagnosis seems to be consistent with the findings and undulant fever has not been considered. Some of the reasons for neglecting to consider this disease are (1) the impression that it is associated with goat's milk, (2) that it is present in epidemics only, (3) that it occurs usually in the Mediterranean area. Repeatedly, in the past few years, attention has been called to the fact that cows may be infected with Brucella Abortus and thus undulant fever may result from drinking raw infected cow's milk. Thus, New England is far from immune to this disease unless all infected cows are eradicated. Medical teaching has emphasized ruling out typhoid, tuberculosis and sepsis as the main causes of fever. It is suggested that undulant fever be added as a fourth cause of pyrexia. Many more cases of this disease will be discovered if it be considered, as the tests for its diagnosis are not difficult ones. Routinely, the undulant fever agglutination test should be done in every case of puzzling fever. The case that simulated subacute bacterial endocarditis shows how valuable the agglutination test may be. We venture the suggestion that some recovered cases of so-called mild typhoid fever, vague miliary tuberculosis and probable subacute bacterial endocarditis may have been cases of undulant fever. It seems desirable to consider undulant fever as the diagnosis in puzzling cases of fever if the agglutination is positive through dilutions of 1-320[4] or higher. Such dilutions may be considered as indicative of an active or recent infection. As noted in the case reports, our positive tests were in dilutions of 1-5120 and 1-11,000. Fortunately, the prognosis in undulant fever as to life is very good, as the mortality averages only 2-3 per cent. Unfortunately, the prognosis for the diseases simulating undulant fever is rather poor, so that the mental comfort for the family is great if the latter diagnosis can be established as the cause of the pyrexia. Thus, although the disease may last weeks or many months, eventual recovery can be anticipated. Many laboratory tests have been devised for diagnosing undulant fever. The blood serum agglutination test, the intradermal test, the positive complement fixation reaction, the blood culture, the urine and stool cultures are used more or less frequently. For practical purposes, the agglutination test is the best as it is simple and inexpensive and is most reliable. The blood is collected as for a Wassermann test and is sent to the State Laboratory or to the United States Public Health Laboratory in Washington.

SUMMARY

1. Two cases of undulant fever, simulating subacute bacterial endocarditis and pulmonary tuberculosis, are reported.

2. Characteristic findings of undulant fever as shown by these cases were the following:

1. Daily fluctuating fever.
2. Comparative well-being of patient.
3. Drenching night sweats.
4. Pulse rate only slightly elevated.
5. Splenomegaly.
6. Fleeting arthralgia.
7. Tendency to constipation.
8. Normal white count with lymphocytosis.
9. Positive agglutination tests for undulant fever in high titre.

3. It is suggested that undulant fever be considered in the differential diagnosis of every case of fever of undetermined origin.

4. Treatment in our cases was entirely symptomatic and supportive. On reviewing the literature, many therapeutic agents have been recommended such as vaccines, passive sera from goats, chemotherapy, arsphenamin and intravenous typhoid. However, none of these have been proved specific for the disease.

5. It is suggested that all brucella infected cattle should be eradicated and milk should be pasteurized.

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PHYSICIAN AND PATIENT AS A SOCIAL SYSTEM*

BY L. J. HENDERSON, M.D.†

MEDICINE is to-day in part an applied science. Mathematics, physics, chemistry, and many departments of biology find applications in this hospital and in the practice of all skillful physicians. Meanwhile, the personal relations between the physician and the patient remain nearly what they have always been. To these relations, as yet, science has been little applied, and it is unlikely that the men in this room are upon the whole as much concerned about their personal relations with patients as a similar group of Boston doctors must have been in the days of James Jackson. A multitude of important new facts and theories, of new methods and routines, so far absorb the physician's attention and arouse his interest that the personal relations seem to have become less important, if not absolutely, at least relatively to the new and powerful technology of medical practice. This condition, for which nobody is to blame, might perhaps be modified if it were possible to apply to practice a science of human relations. But such a science is barely growing into the stage where applications are possible.

The psychologists and sociologists are the professional custodians of what little scientific knowledge we possess that is conversant with personal relations. But from them we have, as yet, little to learn, for they are in general little aware of the problem of practicing what they know in the affairs of everyday life. Indeed, skill in managing one's relations with others is probably less common among professional psychologists and sociologists than among the ablest men of affairs or the wisest physicians. So the personal relations of the physician with his patients and with their families are still understood, when they are understood, at the empirical level, as they were in the days of Hippocrates. Such skill is not only empirical but it is also, as we vaguely say, intuitive. Sometimes in those favored persons whose perceptions and sensibilities are well suited to the task, it results in patterns of behavior that are among the most interesting and, if I may use the word, beautiful that I know. As I came into this room, I was saying that if Dr. Frederick Shattuck could only be here he, who knew so much more about my subject than I shall ever know, would have been able after I had finished to say many things to you and to me. Doctors like him have always existed and will always exist, but their skill dies with them except when their apprentices have learned in some measure to imitate them.

*An address delivered at the Harvard Medical School Colloquium, Vanderbilt Hall, December 20, 1934, and at a Medical Staff Meeting, Massachusetts General Hospital, January 21, 1935.

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The necessary condition for the effective transmission of acquired knowledge seems to be scientific formulation, and for this purpose some kind of theory, working hypothesis, or conceptual scheme is necessary. In this way the natural sciences are preserved and transmitted, and the rôle of scientific laws and generalizations is seen to be not merely economy of thought, as Mach said, but also the effective remembering of the successful and economical thought of the past. A well learned theory is remembered in the right place at the right time, and this is a necessary condition for its use. Accordingly my first subject is the theory of the relation between physician and patient.

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Four centuries ago, Machiavelli was thinking of certain great problems of human society and writing two famous books. In so doing, he reached scientific generalizations about the influence of the sentiments upon the actions of men and, through these actions, upon the fate of human societies. As a whole, these conclusions stand; but from this great and ingenious work of Machiavelli's almost no developments have followed. The science of statecraft and of the influence of the sentiments upon human behavior is little different to-day from what it was in Florence in the 16th century.

In the following century, another Florentine, Galileo, published his "Dialogues on Two New Sciences". From this work a great part of modern science has grown out. The two men were perhaps equal in ability and in originality. Why has the influence of one been small and that of the other inestimably great?

In seeking a partial answer to this question, I ask you to consider the names of the subjects that are taught in modern universities, and to divide them, so far as may be, into two classes: first, history, politics, economics, sociology, law, literature, etc.; secondly, logic, mathematics, physics, chemistry, biology, grammar, harmony, etc. Most subjects will fall well enough into one or the other of these two classes. Next I ask you to consider the behavior of the professors who cultivate the two classes of subjects. Those who are adepts of subjects of the second class, when they differ, commonly do so at the frontiers of knowledge, where growth occurs. Moreover, their differences are ordinarily settled by observation, experiment, mathematical calculation, and logical analysis. But in the subjects of the first class differences of opinion occur at all points, and frequently they cannot be resolved. The differences and the disputes seem to be interminable, and there is often no accepted method of reaching a conclusion.

Such a contrast between the behavior of the

skilful devotees of the two classes of subjects must depend in part upon differences in the nature of the two classes of subjects, for we cannot admit that a natural selection of professors so nearly perfect as to produce this striking result should occur. Now there is, in fact, one difference between the two classes of subjects which, as I think, is sufficient in a rough approximation to explain the phenomenon. The subjects of the second class do not, in general, consider the interrelations of two or more persons. The subjects of the first class always consider the interrelations of two or more persons. Thus in history, politics, economics, sociology, law, literature, etc., the interrelations and interactions of people are always concerned, but in logic, mathematics, physics, chemistry, biology, grammar, harmony, etc., except perhaps in certain subjects on the borders of biology, they are ruled out. Perhaps this distinction also goes far to explain the curious condition of psychology in our own time. At any rate I am persuaded that it goes far to explain why we have little more than empirical knowledge about the relations of physician and patient.

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Willard Gibbs's generalized physico-chemical system is possibly the most famous piece of scientific work that has been done by an American. According to Gibbs, any arbitrarily isolated portion of the material universe may be regarded as a physico-chemical system. In a first approximation, it may be characterized as follows: A physico-chemical system is made up of components. Components are individual chemical substances such as water, salt, etc. They exist in phases. Phases are physically homogeneous parts of the system, either solid, or liquid, or gaseous such as ice, a salt solution, or air. The system is further distinguished by the concentration of the components in the phases, by its temperature, and by its pressure. For many purposes no other factors need be considered.

The Italian sociologist, Pareto, formerly professor at the University of Lausanne, has described a generalized social system which may be usefully compared with Gibbs's physico-chemical system. Pareto's social system is made up of individuals. They are perhaps analogous to the components of Gibbs's system. The individuals are heterogeneous, that is, unequal. They are unequal in size and in age. There are two sexes. They have different educations. They belong to different social and economic classes, to different institutions, to different social structures. They suffer from different pathological conditions, and their mental differences are different far beyond our computation and description. This heterogeneity suggests the heterogeneity of solid, liquid, and gaseous phases in the physico-chemical system.

These individuals possess, or at least manifest, sentiments. I implore you not to ask me to define the word sentiment, but to permit me to use it without definition to include in its meaning a variety of mental states. For example, I desire to solve a problem; that is a sentiment. You have a feeling that the constitution of the United States should be preserved; that is a sentiment. Affection for the members of your family is a sentiment. The feeling of personal integrity is a sentiment. The desire to express your gratitude for a kindness is a sentiment. The sexual complexes of psychoanalysts, even though they may be unconscious, are for my purpose sentiments.

The individuals who make up social systems also have economic interests, and they have and use language. This use of language is sometimes a non-logical manifestation of sentiments. For example, I read the other day the following title of a sermon, posted up in front of a church in a New England town, "One on God's side is a majority." Language is also sometimes used, though less often than we fondly suppose, to perform logical operations and to express their results.

A physician and a patient make up a social system. And that is my first point.

Many of you, I fear, will think this introduction singularly irrelevant to the subject of my discourse, and so vague and general that it can hardly be of any use in the premises. To them I venture to suggest that it is possible that they may be mistaken, and I ask them to try to follow what I now have to say receptively, postponing criticism until they have received my whole statement.

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Two persons, if no more are present, make up a social system. These individuals are heterogeneous. They have and are moved by sentiments and interests. They talk and reason. That is a definition. I shall now state a theorem. In any social system the sentiments and the interactions of the sentiments are likely to be the most important phenomena. And that is my second point. Sometimes the interaction of the sentiments of the individuals making up a social system is hardly less important than gravitational attraction in the solar system.

In the eighteenth century, before a wave of sentimentality swept over the western world, some people saw human relations pretty clearly. They had not been brought up on Rousseau and others whose writings have continued down almost to the present time to influence the intellectual atmosphere in which men have formed this habit of thought. Among the more successful eighteenth century observers of the mechanism of human behavior was Lord Chesterfield. From one of his letters to his son I venture to quote:

> "I acquainted you in a former letter, that I had brought a bill into the House of Lords for correcting and reforming our present

> calendar, which is the Julian; and for adopting the Gregorian. I will now give you a more particular account of that affair; from which reflections will naturally occur to you, that I hope may be useful, and which I fear you have not made. It was notorious, that the Julian calendar was erroneous, and had overcharged the solar year with eleven days. Pope Gregory the Thirteenth corrected this error; his reformed calendar was immediately received by all the Catholic Powers in Europe, and afterwards adopted by all the Protestant ones, except Russia, Sweden, and England. It was not, in my opinion, very honourable for England to remain in a gross and avowed error, especially in such company; the inconveniency of it was likewise felt by all those who had foreign correspondences, whether political or mercantile. I determined, therefore, to attempt the reformation; I consulted the best lawyers and the most skilful astronomers, and we cooked up a bill for that purpose. But then my difficulty began: I was to bring in this bill, which was necessarily composed of law jargon and astronomical calculations, to both which I am an utter stranger. However, it was absolutely necessary to make the House of Lords think that I knew something of the matter; and also to make them believe that they knew something of it themselves, which they do not. For my own part, I could just as soon have talked Celtic or Sclavonian to them, as astronomy, and they would have understood me full as well: so I resolved to do better than speak to the purpose, and to please instead of informing them. I gave them, therefore, only an historical account of calendars, from the Egyptian down to the Gregorian, amusing them now and then with little episodes; but I was particularly attentive to the choice of my words, to the harmony and roundness of my periods, to my elocution, to my action. This succeeded, and ever will succeed; they thought I informed, because I pleased them; and many of them said, that I had made the whole very clear to them; when, God knows, I had not even attempted it. Lord Macclesfield, who had the greatest share in forming the bill, and who is one of the greatest mathematicians and astronomers in Europe, spoke afterwards with infinite knowledge, and all the clearness that so intricate a matter would admit of: but as his words, his periods, and his utterance, were not near so good as mine, the preference was most unanimously, though most unjustly, given to me. This will ever be the case; every numerous assembly is *mob*, let the individuals who compose it be what they will. Mere reason and good sense is never to be talked to a mob; their passions, their sentiments, their senses, and their seeming interests, are alone to be appealed to. Understanding they have collectively none, but they have ears and eyes, which must be flattered and seduced; and this can only be done by eloquence, tuneful periods, graceful action, and all the various parts of oratory."

It is not only to a mob that reason and good sense cannot effectively be talked. A patient sitting in your office, facing you, is rarely in a favorable state of mind to appreciate the precise significance of a logical statement, and it is in general not merely difficult but quite impossible for him to perceive the precise meaning of a train of thought. It is also out of the question that the physician should convey what he desires to convey to the patient, if he follows the practice of blurting out just what comes into his mind. The patient is moved by fears and by many other sentiments, and these, together with reason, are being modified by the doctor's words and phrases, by his manner and expression. This generalization appears to me to be as well founded as the generalizations of physical science.

If so far I am right, I think it is fair to set up a precept that follows from all this as a rule of conduct: The physician should see to it that the patient's sentiments do not act upon his sentiments and, above all, do not thereby modify his behavior, and he should endeavor to act upon the patient's sentiments according to a well-considered plan. And that is my third point.

I believe that this assertion may be regarded as an application of science to the practice of medicine, and that as such it will bear comparison with the applications of physics, chemistry, and biology to practice. However, in this case the application of science to practice is peculiarly difficult. If I am to speak about it, I must in the first place beg explicitly to disclaim any skill of my own. It is not my business to deal with patients, nor has it been my business to perform that kind of operation that Chesterfield so well describes in his letter. Accordingly, what I am now to say to you is, in the main, second-hand knowledge that I have cribbed from others.* It represents, so far as I can understand what I have seen and heard, the soundest judgment, based upon experience, skillful performance and clear analysis in this field. In order to be brief and clear, I shall permit myself the luxury of plain assertion.

In talking with the patient, the doctor must not only appear to be, but must be, really interested in what the patient says. He must not suggest or imply judgments of value or of morals concerning the patient's report to him or concerning the patient's behavior. (To this there is one exception: When the patient successfully presents a difficult objective report of his experiences, it is useful to praise him for doing well what it is necessary that he should do in order to help the physician to help him.) In all those matters that concern the psychological aspects of the patient's experience few

*I owe my information to my colleagues, Professors Elton Mayo, F. J. Roethlisberger, and their associates. The theory and practice of interviewing developed by Mayo were applied and adapted with the advice and collaboration of the Harvard Department of Industrial Research by the Western Electric Company in the course of an elaborate investigation at the Hawthorne Works of the Company. A valuable description of these Western Electric methods of interviewing may be found in Bingham and Moore's *How to Interview*, New York, 1931; Second Edition, 1935. In all this it is possible to discern more than traces of the methods of psychoanalysis, divested however of the usual theoretical and dogmatic accompaniments, and therefore considerably modified.

questions should be asked and, above all, no leading questions. There should be no argument about the prejudices of the patient, for, at any stage, when you are endeavoring to evoke the subjective aspect of the patient's experience or to modify his sentiments, logic will not avail. In order to modify the sentiments of the patient, your logical analysis must somehow be transformed into the appropriate change of the patient's sentiments. But sentiments are resistant to change. For this reason, you must so far as possible utilize some part of the sentiments that the patient has in order to modify his subjective attitude.

When you talk with the patient, you should listen, first, for what he wants to tell, secondly, for what he does not want to tell, thirdly, for what he cannot tell. He does not want to tell things the telling of which is shameful or painful. He cannot tell you his implicit assumptions that are unknown to him, such as the assumption that all action not perfectly good is bad, such as the assumption that everything that is not perfectly successful is failure, such as the assumption that everything that is not perfectly safe is dangerous. We are all of us subject to errors of this kind, to the assumption that quantitative differences are qualitative. Perhaps the commonest false dichotomy of the hypochondriac is the last of those that I have just mentioned: the assumption that everything not perfectly safe is dangerous.

When you listen for what the patient does not want to tell and for what he cannot tell you must take especial note of his omissions, for it is the things that he fails to say that correspond to what he does not want to say plus what he cannot say. In listening for these omissions, which is a difficult task, you must make use of every aid that is available. Among the available aids are the results of psychoanalysis. Many of them are well established; but if you wish to preserve a scientific point of view, you must beware of psychoanalytical theories. Use these theories, if you must use them, with skepticism, but do not believe them, for they are themselves in no small measure rationalizations built up by an eager group of enthusiastic students who are unquestionably seeking new knowledge, but whose attitude is strangely modified by a quasi-religious enthusiasm, and by a devotion to the corresponding quasi-theological dogmas. As a useful corrective for undue confidence in the importance of such theories, it is well to recall Henri Poincaré's judicious and skeptical remark: "These two propositions, 'the external world exists', or, 'it is more convenient to suppose that it exists', have one and the same meaning." In truth, all theories, but above all others those that refer to the sentiments of men, must be used with care and skepticism.

Therefore, beware of your own arbitrary assumptions. Beware of the expression of your own feelings. In general, both are likely to be harmful, or at least irrelevant, except as they are used to encourage and to cheer the patient. Beware of the expression of moral judgments. Beware of bare statements of bare truth or bare logic. Remember especially that the principal effect of a sentence of confinement or of death is an emotional effect, and that the patient will eagerly scrutinize and rationalize what you say, that he will carry it away with him, that he will turn your phrases over and over in his mind, seeking persistently for shades of meaning that you never thought of. Try to remember how as a very young man you have similarly scrutinized for non-existent meaning the casual phrases of those whom you have admired, or respected, or loved.

Above all, remember that it is meaningless to speak of telling the truth, the whole truth, and nothing but the truth, to a patient. It is meaningless because it is impossible;—a sheer impossibility. Since this assertion is likely to be subjected to both objective and subjective criticism, it will be well that I should try to explain it. I know of no other way to explain it than by means of an example. Let us scrutinize this example, so far as we may be able, objectively, putting aside all our habits of moralistic thought that we acquired in early years and that arise from the theological and metaphysical traditions of our civilization.

Consider the statement, "This is a carcinoma." Let us assume in the first place that the statement has been made by a skillful and experienced pathologist, that he has found a typical carcinoma—in short, that the diagnosis is as certain as it ever can be. Let us also put aside the consideration that no two carcinomas are alike, that no two patients are alike, and that, at one extreme, death may be rapid and painful or, at another extreme, there may be but a small prospect of death from cancer. In short, let us assume, putting aside all such considerations, that the statement has nearly the same validity as the assertions contained in the nautical almanac. If we now look at things, not from the standpoint of philosophers, moralists, or lawyers, but from the standpoint of biologists, we may regard the statement as a stimulus applied to the patient. This stimulus will produce a response and the response, together with the mechanism that is involved in its production, is an extremely complex one, at least in those cases where a not too vague cognition of the meaning of the four words is involved in the process. For instance, there are likely to be circulatory and respiratory changes accompanying many complex changes in the central and peripheral nervous system. With the cognition there is a correlated fear. There will probably be concern for the economic interests of others,

for example, of wife and children. All these intricate processes constitute the response to the stimulus made up of the four words, "This is a carcinoma", in case the statement is addressed by the physician to the patient, and it is obviously impossible to produce in the patient cognition without the accompanying affective phenomena and without concern for the economic interests. I suggest, in view of these obvious facts, that, if you recognize the duty of telling the truth to the patient, you range yourself outside the class of biologists, with lawyers, and philosophers. The idea that the truth, the whole truth, and nothing but the truth can be conveyed to the patient is an example of false abstraction, of that fallacy called by Whitehead, "The fallacy of misplaced concreteness." It results from neglecting factors that cannot be excluded from the concrete situation and that have an effect that cannot be neglected. Another fallacy also is involved, the belief that it is not too difficult to know the truth; but of this I shall not speak further.

I beg that you will not suppose that I am recommending, for this reason, that you should always lie to your patients. Such a conclusion from what I have said would correspond roughly to a class of fallacies that I have already referred to above. Since telling the truth is impossible, there can be no sharp distinction between what is true and what is false. But surely that does not relieve the physician of his moral responsibility. On the contrary, the difficulties that arise from the immense complexity of the phenomena do not diminish, but rather increase, the moral responsibility of the physician, and one of my objects has been to describe the facts through which the nature of that moral responsibility is determined.

Far older than the precept, "the truth, the whole truth, and nothing but the truth", is another that originates within our profession, that has always been the guide of the best physicians, and, if I may venture a prophecy, will always remain so: So far as possible, "do no harm". You can do harm by the process that is quaintly called telling the truth. You can do harm by lying. In your relations with your patients you will inevitably do much harm, and this will be by no means confined to your strictly medical blunders. It will arise also from what you say and what you fail to say. But try to do as little harm as possible, not only in treatment with drugs, or with the knife, but also in treatment with words, with the expression of your sentiments and emotions. Try at all times to act upon the patient so as to modify his sentiments to his own advantage, and remember that, to this end, nothing is more effective than arousing in him the belief that you are concerned whole-heartedly and exclusively for *his* welfare.

What I have said does not conform in my manner of saying it to the rules that I have suggested for your relations with patients. I have tried to talk reason and good sense to you, following, so far as I have been able, the habits of a lecturer upon scientific subjects. With some of you I have surely failed to accomplish my object. To them I suggest that this failure is an excellent illustration of the phenomena that I have been describing, for, unless I am mistaken, if you dislike what I have said, it is chiefly because I have failed to appeal to and make use of your sentiments.

THE NEISSERIAN MEDICAL SOCIETY OF MASSACHUSETTS

THE MANAGEMENT OF GONORRHEA*

III. The Clinical Diagnosis of Gonorrhea in the Adult Female

GONORRHEA is more often missed than diagnosed in the female. This is disclosed both by its low reported prevalence in that sex, compared with its wide prevalence in the male, and by the more nearly equal prevalence of syphilis in the two sexes. Gonorrhea is at least twice as prevalent as syphilis in the male. It is spread, on the whole, in the same way as syphilis and is acquired by exactly the same age groups. Yet more syphilis than gonorrhea is reported in women.

There are a number of reasons for the quite general failure to discover gonorrhea in the female, chief among which are the following:

1. The laissez-faire attitude of most women (especially married women) toward leucorrhea and mild urinary symptoms.

2. The variety of conditions of the cervix which produce a leucorrhea.

3. The inaccessibility of the pelvic cavity and its contents.

4. The tendency of the medical practitioner to consider all leucorrheas as due to cervical lacerations, and all metrorrhagias to be the result of uterine displacements.

5. The tendency of the surgeon to look upon the surgical complications of gonorrhea as pathological entities (pus-tubes, pelvic inflam-

*This is the third of a series of articles by the Neisserian Medical Society of Massachusetts, on the Management of Gonorrhea. The first, "The Laboratory in the Diagnosis of Gonorrhea", was published in the *New England Journal of Medicine*, Vol. 210, No. 7, February 15, 1934. The second, "The Clinical Diagnosis of Gonorrhea", was published in the same *Journal*, Vol. 211, No. 5, August 2, 1934. The present article is essentially a continuation of the second.

mation, etc.) and to overlook the general infection of the genito-urinary tract.

6. The relative rarity with which "organisms resembling the gonococcus" can be found in the later stages of the disease, combined with a traditional but unsupportable unwillingness on the part of the medical profession to make the diagnosis on clinical evidence and history, for moral considerations*.

7. The too general belief that gonorrhea in the female is to be found only in prostitutes or in the promiscuous, in the face of ample evidence that more than half of the infections are in innocently infected married women and young girls.

The diagnosis of gonorrhea in the adult female cannot depend alone upon the discovery of "organisms resembling the gonococcus". They are likely to be found only during the early stages of the infection, during reactivations of the disease and for a short time after a reinfection. At other times, diagnosis will usually have to rest upon detailed history, thorough examination, and the physician's ability to "sort out" from the mass of evidence, that which points to infection with the gonococcus.

THREE MAJOR CLINICAL STAGES

Gonorrhea in the adult female is a disease of the genito-urinary system, characterized clinically by particular activity in three locations, i.e., in the urethra and its appendages, in the cervix, and in the pelvic cavity and its contents. A gonorrheal cystitis is rare. *The vagina itself is among the least involved of the genito-urinary structures.* Gonorrheal rheumatism is less common in the female than in the male. Ophthalmia, endocarditis, meningitis and pyelitis are possible complications. Gonorrheal proctitis is more common in the female than in the male.

The progress of the disease may be divided, very conveniently, into three stages:

1. The stage of infection.
2. The stage of pelvic invasion.
3. The stage of pelvic degenerative lesions.

The stage of infection introduces the disease clinically. It embraces the involvement of those structures which lie below the pelvic cavity, i.e., the urethra, urethral glands and Skene's glands, the mucosa of the vulva, Bartholin's glands and the cervix. It is seen most often in young, single women. They become more easily alarmed at mild or moderate symptoms than married or parous women who are accustomed to leucorrheas or other mild genito-urinary complaints, or who, newly married, assume that their symptoms may be due to frequent intercourse. The reaction in this stage of infection is so characteristic clinically that diagnosis should rarely be difficult.

The stage of pelvic invasion is the extension of the infection into the pelvic cavity. It embraces the involvement of the endometrium, the tubes, the ovaries and the pelvic peritoneum. This invasion of the pelvis is usually delayed until after the first or second menstruation following infection, except in some fulminating infections, when it may occur almost at once. It may not occur until after the termination of the next pregnancy, which accounts for much "one-child" sterility.

The stage of pelvic degenerative lesions is the end result of the pelvic invasion. There is little or no evidence of inflammatory activity, although the gonococcus may still be present and there may be a definite endocervicitis due to the persistence of such secondary invaders as the staphylococcus, streptococcus, etc. There may be extensive degeneration even though pelvic invasion may have manifested itself clinically only as a slight disturbance of menstruation.

Obviously these stages, and particularly the first and second, may overlap. Of prime importance is the fact that the three *are* gonorrhea. It is not only the urethritis or the vulvitis or the cervicitis or the "vaginitis" or the leucorrhea described by the general practitioner, or the pus-tube or pelvic inflammation or oöphoritis or pelvic abscess seen by the surgeon, or the pathological menopause or the fixed, retroverted uterus, or the lumbo-sacral backache, or the persistent endocervicitis or the neurasthenic "medical shopper" of the third stage. It is all of these, in varying degree. If every physician will interpret what he sees as only a phase of an extensive process, gonorrhea will be diagnosed more frequently and managed more intelligently.

SOCIAL AND SEXUAL CONSIDERATIONS

Infection of the *adult* genito-urinary system with gonorrhea in any other way than through sexual intercourse is so rare that it is an epidemiological curiosity. It is possible that an occasional infection may result from the use of a "community" douche nozzle by two or more women, in rapid sequence, if one of them has gonorrhea. The term "sexual intercourse" is used here in its broadest sense. Actual intercourse is not essential to infection. Any contact, however slight, which could transfer pus or infectious seminal fluid from penis to vulva or cervix, must be considered. Condoms break and prophylactics used inexpertly or applied too late are no guarantee against infection. Gonorrheal proctitis occurs in both sexes although, in the female, it is by no means always due to perversions. Homosexual practices are not rare. If normal sexual intercourse cannot account for the infection, a carefully taken history will consider perversions.

*See "Clinical Diagnosis of Gonorrhea", by the Neisserian Medical Society, in the *New England Journal of Medicine*, Vol. 211, No. 5, August 2, 1934.

It may be necessary to leave discussion of the sexual history until after the patient has been examined, or until a later date. A definite diagnosis or suspicious clinical evidence will make its eventual consideration imperative. If the patient's own story suggests sexual relationships or that she suspects infection, or otherwise presents an opportunity to discuss the sexual history, it may be reviewed at once. The physician may often make the opportunity by adroit questioning.

Gonorrhea is prevalent among married women. The great majority of men acquire gonorrhea while they are single. Two-thirds of the infections are in young men between fifteen and thirty years of age. The peak of prevalence lies in the twenty or twenty-one year age groups. Many of these men carry their premarital infections into marriage. Some women are averse to intercourse during pregnancy, after child-birth or at the approach of the menopause. Their husbands may be seeking "consolation" elsewhere. The fact that a woman may be morally above reproach is no guarantee of her freedom from gonorrhea.

THE DIFFERENTIAL DIAGNOSIS OF GONORRHEA IN THE ADULT FEMALE

Obviously, a complete history and a thorough examination are as essential to the differential diagnosis of gonorrhea as they are to that of any other human ailment. The following is offered as a guide to history taking and examination of the genito-urinary system of the adult female. It should not be necessary to emphasize the importance of a proper examining table, suitable speculum, forceps, sponges, and a good light.

History

The dates of onset, natures and subsequent development of all complaints, signs and symptoms should be ascertained.

The sexual history, at whatever time it is taken, must be correlated with the symptomatology.

1. The chief complaint.
2. Other symptoms, subjective and objective.
3. Direct questions as to:
   (a) Menstrual history. Age at onset, interval, length of period, amount and nature of flow under "normal" conditions for the patient, and date of last period. Missed periods, irregularity of interval, increase or decrease in amount, pain. Relation of any disturbance in the "normal" to marriage, obstetrical history (especially miscarriage or abortion), sexual history or the appearance of symptoms.
   (b) Urethral or urinary complaints. Their relation to the onset or exacerbation of leucorrhea, to marriage, to obstetrical history and the sexual history. Note the amount of tea, coffee and water used. Note whether the urinary complaint is of sudden or gradual onset, is associated with frequency or nocturia. Is there any history or question of diabetes?
   (c) Vaginal discharge. Its relation to menstruation, marriage, childbirth and the sexual history. Note any exacerbation, as leucorrhea may have existed on some other basis before infection with gonorrhea occurred.
   (d) Marital history. How long married? Living with husband or why not? Previous marriages and why terminated? Health of present and former husbands, especially as to "bladder" or "kidney" troubles, prostatitis, "strain", gonorrhea, any urethral discharge, mysterious illness or long abstinence from intercourse. Happily married? (Question of infidelity.)
   (e) Sexual history (at this point or later). History of intercourse (whether in or out of marriage) as far back, at least, as six months prior to the onset of any genito-urinary complaint. The use and nature of douches, prophylactics and contraceptives. If they have been used routinely, note any failure to follow the routine.
   (f) Obstetrical history (important in the case of sterility resulting from gonorrhea, and as a lead to *syphilis*). Number of pregnancies, listed in chronological order, with data as to their outcome (miscarriage, abortion, prematurity, stillbirth, living child) with present status of children born alive (age, sex, present health, any record of ophthalmia neonatorum or vaginitis). Instrumental delivery or any other operative obstetrics. Puerperal fever. Sterility, not accounted for by contraception.
   (g) Operative history (especially abdominal and vaginal). The removal of any of the pelvic contents, pelvic drainage, surgical treatment of Bartholin gland or peri-urethral abscess. Any other abdominal surgery, such as appendectomy, uterine suspension, etc.
   (h) Miscellaneous past complaints. "Peritonitis", "pus-tubes", pelvic inflammation, "adhesions", Bartholin or peri-urethral abscess (boils), anal discharge.
   (i) The use of alcoholic beverages, especially as a lead to sex habits or probable exposure.
   (j) Previous medical consultation, drug-store prescription, or self-treatment of the present illness, with diagnosis and nature and duration of treatment.
   (k) Any previous infection with gonorrhea.
   (l) Gonorrhea in any sexual partner. (Patients frequently request examination because they have heard that a partner has gonorrhea, or are accused of infecting a partner.)

Genito-Urinary Examination

If the history suggests a recent and active infection, the patient should be asked not to void until the urethra has been examined and smears taken. Otherwise collect a specimen of urine

before beginning the examination, as the bladder should be empty for abdominal and pelvic examination. If there is pus in the urethra, it may help to have the patient waste a portion of urine before collecting the specimen or pus in the urine may be considered, erroneously, as coming from the bladder or kidneys.

1. The abdomen. Operative scars, rashes or eruptions, striae gravidarum, palpation for tumors, tenderness and rigidity.
2. The inguinal glands. Palpable, tender, swollen, abscess, sinus.
3. The vulva. Discharge, lesions, inflammation, swelling, appearance of mucous membranes (velvety, or smooth and shiny). Darkfield examination of any lesion for syphilis (of utmost importance, as two-thirds of all female syphilis is discovered in the late stages, and four-fifths of the early syphilis in the female has reached the secondary stage when discovered. Thus only about six per cent is diagnosed in the primary, or most favorable stage.)
4. The urethral meatus. Discharge, inflammation, condition of mucous membrane (velvety or shiny), patulous, polyp, caruncle, eversions.
5. Skene's ducts. Appearance of openings, discharge, inflammation.
6. Bartholin's glands. Inflammation, discharge, abscess, cyst, scar of incision or excision. Palpate. Collect specimen for smear if indicated.
7. The vaginal orifice. Virginal, marital, parous.
8. Palpation of the urethra. Massage the urethra firmly, with a circular motion, moving forward, against the under side of the pubic arch, to express any material in Skene's or the urethral glands. Note whether it appears to be pus, or the caseous, inspissated, glandular secretion. *Smear.* (Simple stripping of the urethra *is not enough.*)
9. The vagina. Lesions, inflammation. The vagina as a rule, is not involved in the adult, in gonorrhea, though occasionally, especially in young women, it may be severely so. If there is vaginitis, it may be due to infection with Trichomonas vaginalis, or the use of very irritating douches or medicated prophylactics or contraceptives, or it may be a senile vaginitis. Occasionally a chancre may be found just inside the vaginal orifice.
10. If a specimen of urine was not obtained at first, it should be collected at this point.
11. The cervix.
    (a) Direct exposure. Position, size, discharge, lesions, lacerations, cysts, condition of os. Remove all excess discharge as completely as possible, and take smear from within the cervical canal. Squeezing the cervix gently with the blades of the speculum may help in obtaining a satisfactory smear. Darkfield examination of any suspicious lesion is important.
    (b) Digital examination. Position, consistency, lacerations, mobility, tenderness on motion.
12. The pelvic cavity and its contents (bimanual examination, with bladder and rectum empty).
    (a) The uterine fundus. Size, shape, position, consistency, mobility, tenderness.
    (b) The uterine adnexa. Palpability, size, position, tenderness.
    (c) The vaginal vaults. Resistance, thickening, tenderness, masses. (Avoid the error of mistaking the contents of the sigmoid as a pelvic mass.)
13. The anus. Discharge, lesions, bleeding, fissures, hemorrhoids. Darkfield examination of any lesions. (Chancre of the anus is not uncommon.) Examination per rectum may help to confirm, or add to, the vaginal examination. It may be substituted for vaginal examination in some virgins. *Rectal examination should not be made during the active stage of a gonorrheal infection.*
14. Temperature, especially if there is any evidence of pelvic involvement.
15. Collect specimen of blood for complement fixation test if this test is to be used, but in any case, for study for syphilis.

NOTES: Smears should be taken repeatedly in all cases in which gonorrhea is suspected. Some of the smears should be taken a day or two before and a day or two following menstruation. They should be studied for pus content as well as for organisms.

There will be pus, and sometimes a faint trace of albumin in the urines of many women who have any degree of leucorrhea. If discarding the first part of the urine does not overcome this error, a catheterized specimen may be required for differential diagnosis. The use of the catheter may not always be advisable if there is active infection of the urethra or Skene's glands.

Apparently, in an occasional, active gonorrhea, a Hinton test may be falsely positive. If there is no other evidence of syphilis, weekly serological tests should be made. If the test is falsely positive, it will gradually revert to negative as the inflammatory reaction subsides.

MAKING THE DIAGNOSIS

When the patient's history has been taken and the examination has been completed, the next step is to sort out of all the data which have been collected, those which point to infection with the gonococcus. The following is an outline which may serve as a guide to the analysis. It considers gonorrhea according to the three major stages of the disease, taking into account the fact that the physician may first see the patient during any one of the three.

Stage I

The physician first sees the patient in the Stage of Infection.

1. History of Exposure.
    (a) Recent introduction to sexual intercourse, whether in or out of marriage. Gonorrhea is frequently the "wedding present" of a bride.
    (b) Recent change in sexual partner. Includes recent marriage when the patient has had premarital intercourse with another partner.
    (c) Evidence (or suspicion) of recent infidelity of a regular sexual partner, whether husband or paramour. If a married woman is averse to sexual intercourse, the husband may be having extramarital

intercourse. To be thought of particularly at the approach of the menopause, during pregnancy, after childbirth and after operations (especially abdominal).

(d) General promiscuity.

(e) Failure to use an otherwise routine prophylactic, even though the sexual partner is the same. (Douche, condom, medicated jellies or suppositories, and possibly coitus interruptus in old gonorrheal prostatitis or vesiculitis, are to be considered as "prophylactics".) The use of "prophylactics" in early married life may account for the late infection of a married woman by her husband. Such a delayed infection, therefore, is not proof of the husband's infidelity to his wife.

(f) Actual intercourse is not necessary. Any contact which could transfer the gonococcus to the vulva or cervix must be considered.

2. Symptoms (recent or present).

(a) Pain or burning (smarting) on urination, with frequency and urgency. Although this symptom characteristically introduces gonorrheal infection according to textbooks, it is actually very variable in degree, is often of short duration and is *usually absent*. It is to be differentiated from the *long-standing* complaint of *gradual onset*, associated with kidney disease, *diabetes*, cystitis, polyp, caruncle, senile urethritis, frequent masturbation, the frequent urination of tea and coffee drinkers, and from the complaint of *sudden onset* following the use of a very irritating douche. (Inquiry into the reason for taking so strong a douche may lead to a history of exposure to gonorrhea.) Trichomonas vaginalis and epidermophytosis cause irritations of the vulva which burn on urination.

(b) "Vaginal" discharge (or exacerbation of a previous leucorrhea). Amount and nature depend upon the duration of the infection, the degree of reaction in the cervix, whether or not the patient douches regularly and how recently the douche was used, and whether there was a preëxisting leucorrhea from some other cause. The reaction in the cervix is usually delayed a week or more after the onset of the urinary symptoms (if present) as the inflammatory reaction in the cervix is slower to reach clinical proportions than that in the urethra or vulva.

(c) May be gonorrheal rheumatism.

3. Physical findings.

(a) Urethral meatus. Characteristically inflamed, swollen, gaping and discharging. The degree depends upon the violence of the reaction (ascending, fully active, descending).

(b) Skene's glands. Red, swollen, often everted openings, discharging pus. That portion of the vestibule which contains these openings may be so swollen that it projects well below the meatus.

(c) The mucous membrane of the entire vulva may be inflamed and bathed in pus, depending on when the patient is seen and in relation to her personal hygiene. If the general inflammatory reaction has subsided, there may remain only the local reaction about the urethra and Skene's glands and the injected orifices, often patulous, of Bartholin's glands.

(d) Vagina. Rarely involved in the adult, although in some fulminating cases there may be a marked extension of the inflammatory reaction of the vulva into the lower end of the vagina or from the cervix, into the vaginal vaults. This is more likely to occur in younger women who have just passed puberty and whose vaginal mucous membranes have not wholly changed to the adult, many layered and resistant type.

(e) Cervix. Beginning a week or two after infection, there may be a marked inflammation, the mucosa often having a "granular" appearance. There may be a copious purulent discharge. Later the inflammation may be moderate, or localized as a more or less circumscribed erosion, particularly around the os. The discharge is then chiefly from the os, is mucopurulent or a thick, tenacious plug. In parous women, the characteristic reaction may be modified by preëxisting lacerations, erosions, a patulous os and endocervicitis.

(f) Smears. The first smear may be negative for "organisms resembling the gonococcus" in half the cases, even during the height of the activity. The gonococcus may be extracellular in the early days of the infection. If the patient has douched regularly or very recently or treatment is begun at once, the organisms may never be found thereafter. The pus content of the smears from Skene's glands in any case, and from the nulliparous cervix, is of great significance.

Stage II

The physician first sees the patient in the Stage of Pelvic Invasion. As this stage produces more active symptoms than the first, it more often comes to medical attention.

1. History.

(a) History of exposure and symptoms of the first stage. The exposure and the symptoms of the first stage may antedate the patient's visit to the physician, with pelvic invasion, by many weeks or months. Two or more menstrual periods or a pregnancy may separate the stage of infection from the stage of pelvic invasion.

(b) History of any previous medical opinion, medical care, drug-store or self-treatment for any condition suggestive of the first stage.

2. Symptoms. (Whether these symptoms are a part of the history or of the patient's present complaint depends upon when she is seen.)

(a) One or two menstrual periods appearing a week or two early or the flow prolonged. *This may offer the only evidence of pelvic invasion, and represent the entire clinical picture at this stage.*

(b) Moderate to marked dysmenorrhea (new to this patient) whether or not it is associated with a too early period or prolonged flow. There may be marked "soreness" or "tenderness" over the uterine fundus.

(c) Pain in either right or left lower quadrant or in both quadrants, not limited to the premenstrual or menstrual days, and new to this patient.

(d) Fever. May be absent or so low as to be missed.

(e) Persistent leucorrhea for weeks or months, with or without marked exacerbation at the appearance of pelvic symptoms.

(f) The patient may be so ill as to require surgical intervention (in a small proportion of the cases) or at least complete bed rest and symptomatic treatment. Between this degree of invasion and the simple disturbance of one or two menstrual periods there is a wide variety and degree of involvement. However, in any case, the essential symptomatology will consist of variations of the just enumerated symptoms. If the invasion is severe and extensive there may be nausea and vomiting, severe backache and all the evidence of a surgical condition in the abdomen.

3. Complications of the Stage of Pelvic Invasion.

If the pelvic invasion was severe and extensive, several things may have happened to the patient. These "complications" may appear in the history of a patient who still presents symptoms of pelvic invasion. They will vary according to the medical or surgical advice which the patient has had. The diagnosis may have been made of pelvic inflammation, peritonitis, surgical condition in the abdomen or appendicitis, and:

(a) Drained per vaginam.

(b) Operated upon for anything from "pus-tube" to panhysterectomy.

(c) Operated upon for "appendicitis".

(d) Miscarriage is not uncommon in this stage.

(e) Ectopic pregnancy may occur as a result of the sperm being able to pass through the inflamed tube, while the fertilized egg is not.

4. Physical findings.

(a) Abdomen. Tenderness over uterine fundus or in either lower quadrant or in both; rigidity, or a recent operative scar. Bimanual examination may disclose only tenderness and resistance in one or both vaginal vaults, a tender, fixed uterus, or variable masses, indefinite or defined, in either or both vaults. The findings may not "agree" at all with the complaint. The patient who suffers severe pain and is acutely ill, may present only fever, tenderness and resistance in the vaults and a tender, fixed uterus. A patient with little or no pain, and not apparently ill, may have large pelvic masses, representing enormous pus tubes. Occasionally it may be difficult to differentiate the stage of pelvic invasion and an ectopic pregnancy or a tubal abortion. The Aschheim-Zondek test may be of use in such a case.

(b) Urethra. There may be more or less inflammatory reaction about the urethra and Skene's ducts, depending upon the rapidity with which pelvic invasion has followed the initial infection, or how the infection has persisted in Skene's glands. There may be only the patulous, non-inflamed meatus surrounded by a smooth, shiny "worn" or "denuded" mucous membrane; Skene's ducts may "pout" and pus may be expressed from their openings: or the mucosa and the glands may seem to be entirely normal.

(c) Vulva. The inflammatory reaction in the mucosa of the vulva will probably have subsided, leaving only the injected openings into the Bartholin glands (if they were involved) or the same shiny, "denuded" appearance as that around the urethra. Vaginal discharge may vary from little to profuse.

(d) Cervix. The inflammatory reaction in the cervix will usually have sudsided until only some erosion and a marked mucopurulent discharge from the os remain.

(e) The patient may have fever in variable degree.

(f) Smears from Skene's glands at this stage may or may not contain organisms resembling the gonococcus, or pus, depending upon elapsed time and "recovery". Smears from the cervix are likely to contain typical organisms (if taken properly) and will always contain large amounts of pus.

(g) There may have been, or there may follow, exacerbations of the pelvic invasion as it "lights up", particularly in relation to menstruation and childbirth, and advances from one structure or area to another.

Stage III

The physician sees the patient in the Stage of Pelvic Degenerative Lesions.

This is the end-result of the pelvic invasion. Persistent pain or vague discomforts, persistent, annoying and irritating leucorrhea, various forms of menstrual disturbance which prognosticate an early, pathological menopause, and many other complaints drive the patient from physician to physician and from surgeon to surgeon.

1. History.

(a) History of exposure and of the symptoms of the first stage many months or years before (may be forgotten by the patient), followed by symptoms of the stage of pelvic invasion, and often by operative procedure.

(b) Regular or intermittent pain in either lower quadrant or in both.

(c) Persisting and annoying and irritating leucorrhea, usually thick and tenacious.

(d) Regular or intermittent pain in the lumbar or sacral regions of the back.

(e) Menstrual disturbance which may vary from excessive flow to progressive scan-

tiness, delayed periods, missed periods and an early, pathological menopause.

(f) As a result of continued and annoying symptoms, the patient may have become a "medical shopper", a confirmed neurasthenic, or a museum of operative procedure. These are the patients who have undergone a variety of "partial" operations in which one tube or ovary after the other is removed, the uterus suspended or complete panhysterectomy done.

(g) Absolute, or "one-child" sterility.

2. Physical findings.

(a) Abdomen. There may be deep tenderness in one or both lower quadrants, or any operative scar or scars. Bimanually there may be felt resistance and thickening in the vaginal vaults, masses of variable size or a retroverted, fixed uterus. Usually the findings are indefinite or, in proportion to the complaint, seem negligible.

(b) Urethra. May be patulous, with smooth, shiny mucosa, or it may appear to be normal.

(c) Skene's glands. Patulous, pouting, and may contain expressible discharge containing small numbers of pus cells. Smears may be entirely negative even to pus.

(d) Vulva. Smooth "senile" appearing mucosa.

(e) Cervix. Mucosa may appear healthy or may be eroded. Leucorrhea variable. Os patulous.

(f) Smears from the cervix usually contain pus, but organisms resembling the gonococcus are rarely found, and then only at favorable times, such as just before or after menstruation, or in the event of reinfection or superinfection.

MISCELLANEOUS COMPLICATIONS

1. Bartholin abscess usually results from a persistence of the infection in these glands after the stage of infection (Stage I) has subsided. It may be represented by an active abscess, a cyst, a persistent sinus or an operative scar, depending upon when the patient is seen.

2. Gonorrheal rheumatism is not nearly so common in the female as in the male. It occurs most frequently, as in the male, as a complication of the stage of infection, although, since the stage of pelvic invasion is an active inflammatory process, it may occur during this as well as the initial invasion of the lower genito-urinary structures.

3. Reinfection. This results from intercourse with an infected partner. It is common among married women and the promiscuous. It keeps the infection active and is more apt to result in complications and extensive pelvic invasion.

4. Exacerbation. This may be confused with reinfection. It results from sexual excitement, sexual intercourse and alcohol. This is essentially a "lighting-up" of the original infection, or its extension, due to the persistence of the organisms and their frequent "flushing" to the surface. Its end-results are similar to those of reinfection by a sexual partner. It has a well-known parallel in the male.

IN CONCLUSION

It will be obvious from a careful study of the foregoing that the diagnosis of gonorrhea is not always a simple matter, especially in its later stages. It will be equally obvious that the diagnosis cannot be made in any case unless the physician is willing to spend a reasonable amount of time in taking a careful history and in the thorough examination of the patient.

The physician must first accept the fact that gonorrhea is prevalent among women, and that regardless of the "quality" of his patients or their essential morality, the disease is neither respecter of morals nor of social standing. He must, then, so familiarize himself with the nature of gonorrhea that he will suspect it whenever the patient's story or his examination of the patient points toward infection. Obviously, in order to become familiar with the pathology of gonorrhea, the physician must know what the normal genito-urinary structures look like. Careful study of the normal whenever the opportunity presents itself, is of the very first importance. The frankly active infection is easily diagnosed. The clinical evidence in subsiding or long-standing infections will be seen only by those physicians who are so familiar with the normal and with non-gonorrheal conditions that they are able to distinguish between them.

The patient's story may not suggest gonorrhea unless she is encouraged, by careful questioning, to tell the whole story. The examination of the patient, unless it is thorough, will not disclose a gonorrheal infection. The patient must be examined on a table, in a good light. The examination must cover the entire genito-urinary system. Direct visualization, bimanual examination and laboratory procedures must be utilized to the full.

Although "organisms resembling the gonococcus" may not be found, their presence in smears is valuable evidence in support of the history and clinical diagnosis of gonorrhea. In any case, smears should be studied for pus content. So many smears may have to be examined, even for diagnosis, and certainly during the treatment of the infection, that the physician who must depend upon a distant laboratory will be severely handicapped. Every physician who would attempt the diagnosis or management of gonorrhea in either male or female should own and use a microscope and be expert in the use of the two common stains, the Gram stain and Loeffler's methylene blue.

DIGEST OF THE TWENTIETH ANNUAL REPORT OF THE MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

BY HENRY D. CHADWICK, M.D.*

I have the honor to submit herewith my annual report for the fiscal year ending November 30, 1934, although, as in the past, all figures except those relating to the budget will be given for the calendar year.

It is with much regret that I report the resignation of Dr. Roger I. Lee as a member of the Public Health Council. Because of his interest and knowledge of public health problems and his willingness at all times to be of service, he had an important part in shaping the policy of the Department. To fill this vacancy the Governor appointed Dr. Richard M. Smith, who, because of his familiarity with medical problems and especially with pediatrics, will be very helpful.

1. General Matters

The Department has carried on its work throughout the year without having to contend with any serious outbreaks or epidemics. This year, however, has seen the highest incidence of measles ever reported. The other and more serious communicable diseases have shown a gratifying decline in morbidity and mortality.

The pneumonia study and service financed largely by a grant from the Commonwealth Fund has completed its fourth year. The antipneumococcic serum produced and distributed by the Biologic Laboratory is now of greater concentration and potency. There are marked advantages in this as the volume of serum necessary for treatment is reduced and the unit cost is lessened. This serum is now available to physicians in twenty-three areas of the State, comprising approximately two-thirds of the population. Before the serum could be made available, laboratory technicians in the forty-five leading hospitals were trained in the Neufeld method of typing so that specimens of sputum could be examined without delay. Physicians were instructed in the therapeutic use of the serum in Type I and Type II cases. This serum is furnished to the attending physician for those cases who have not been ill more than four days. In the Department laboratory over 6000 specimens of sputum have been typed during the period of study. An analysis of the records of the pneumonia patients treated with antipneumococcic serum shows that the proper use of the product has resulted in decreasing the expected case fatality rate of Type I by about two-thirds and of Type II cases by about one-half. Thus, definite evidence has been obtained that the lives of many patients ill with these types of pneumonia have been saved by the use of this serum. Antipneumococcic serum is available also for the use of the physicians caring for the 5000 or more men located in the Civilian Conservation Corps camps of the State.

To the Rockefeller Foundation we are indebted for continued financial support in making a study started last year of deaths from cancer. This includes investigation into the etiology of the disease and cancer mortality records. From the same source funds were allotted to make possible a tabulation of the records of the 400,000 school children examined during the Ten Year Program for tuberculosis case finding. A study of the data thus made available will be of great value, particularly in the evidence that can be obtained on the controversial question as to whether an infection with the tubercle bacillus in childhood protects the individual or renders him more liable to contract tuberculosis later in life.

The Commonwealth Fund has made a grant to the Harvard Medical School to carry on through the Pediatrics Department of the Children's Hospital in coöperation with the Department of Public Health an investigation of the value of placental extract in the control of measles. Dr. McKhann of the Children's Hospital, and Dr. Robinson, Director of the Division of Biologic Laboratories, are working together on the project. In a series of over 1000 children exposed to measles and treated with this extract, the attack was prevented or modified in all but about five per cent. When the extract is used within four days of exposure, the attack is usually prevented. If used after the fourth day and before the rash appears, the attack is modified. The modified disease appears to confer permanent immunity and is the desirable thing to bring about except in infants and debilitated children. In the latter, the disease can be prevented, thereby postponing measles until a later time when the course of the disease is much less serious and but very rarely fatal. We are very optimistic about this extract becoming a valuable agent in the control of measles.

The Milk Control Board, consisting of the Commissioner of Agriculture, the Attorney General, and the Commissioner of Public Health, has given much time to a revision of rules and regulations relating to the sanitary handling of milk. Standards have been established for several different grades which are now ready for submission to the Governor and Council for their approval.

The Department of Conservation, the Metropolitan District Commission, and the Department of Public Health, serving as a Joint Board, prepared a ten year plan for increasing the recreational facilities of the State. The recommendation was made that large tracts of waste or unproductive land be purchased each year which could be reforested, used for the propagation of game, and opened to the public for camping purposes; also that pollution of streams and ponds be prevented wherever possible and that these be stocked for the benefit of the fisherman; and that additional beaches should be purchased and made available to the public.

Milk Regulations. The past year has been unusually free from the point of view of milk-borne diseases. No cases of typhoid fever, scarlet fever, or septic sore throat have been directly traced to such a source. Fifteen cases of undulant fever have appeared in almost all of which there was a history of consumption of raw milk from a herd known to be infected with contagious abortion.

The most significant development during the year from the point of view of the protection of the milk supply was in the city of Attleboro, where a milk dealer went to court to challenge the validity of a regulation requiring pasteurization or certification of all milk. This case, which was heard in the Superior Court, resulted in a verdict upholding the regulation, but the case has now been appealed to the Supreme Court. Our latest information, however, is that the plaintiff in the case will withdraw his exceptions, and therefore no decision will be obtained from that court. This is unfortunate as we had hoped for a decision from the Massachusetts Supreme Court. Such regulations, however, have been upheld in the supreme courts of five other states.

The following cities and towns in the Commonwealth have regulations in effect requiring pasteurization or certification of all milk: Ayer, Boston, Brookline, Chelsea, Dedham, Fall River, Framingham, Lexington, Newton, Salem, Swampscott, Wal-

*Chadwick, Henry D.—Massachusetts Commissioner of Public Health. For record and address of author see "This Week's Issue," page 847.

tham, Watertown, and Winchester. Attleboro, Cambridge, Milton, Quincy, Stoneham and Wellesley have recently adopted such regulations but they have not yet become effective.

II. District Health Units

Cape Cod Health Bureau. The Cape Cod Health Bureau, comprising all of Barnstable County, with a population of about 32,000, continues to function in a manner satisfactory to the area. No new projects have been developed. It is to be hoped, however, that a milk laboratory will be included in its program in the near future. As dairy inspection service is being taken over by the State Department of Agriculture, the local health departments will be relieved of much of this routine work. They should, however, carry on a milk laboratory as frequent examinations of samples of milk provide the best evidence as to how the milk is handled on the farm. When milk is unclean or improperly cooled, the bacterial count is found to be high and the cause should be investigated at once.

The Southern Berkshire Health District. The sixteen towns comprising the District, with a population of about 21,000, voted at their respective town meetings on an article in the warrant which would make them officially members of the Health District. Favorable action was obtained in seven towns, namely, Becket, Great Barrington, Monterey, Mount Washington, Richmond, Sheffield, and Tyringham. In the other towns the vote was unfavorable or for postponement. The seven towns have organized to form the legally constituted Southern Berkshire Union Health District, and Dr. Mortimer T. Cavanaugh is Chairman. At town meetings in 1935 the article will be re-submitted in Egremont, Sandisfield, New Marlboro, Alford, Lee, Lenox, Stockbridge, West Stockbridge, and Otis. It is expected that most, if not all of them, will vote to join the union. With this nucleus of towns organized to carry on a constructive health program, it is hoped that others will become interested and that eventually all the towns in Berkshire County will be united in one health district. In this way the cost of administration will be spread over a population of 60,000 which would make it possible to carry on a modern health program in this entire area at a minimum cost.

The Nashoba Health District. Fourteen towns centering about Ayer, with a population of 21,894, make up this District. Much progress toward perfecting the organization and strengthening the program has been accomplished. The people in the area have become more interested in modern health procedures as a result of demonstrations and actual service performed. At the town meetings in 1935 each town will vote on the question of joining together and forming an official Health District. This plan will involve a complete take-over on January 1, 1936 of the work which has been carried on under the sponsorship of the Commonwealth Fund as a demonstration.

Local Board of Health Records. Many boards of health have been very lax in keeping their records of communicable disease. This has made it difficult to develop future control programs, especially in regard to diphtheria immunization. Through the generosity of the Commonwealth Fund it has been possible to have a member of the Department staff visit boards of health to analyze their records and assist in establishing a better system. Besides the towns in the Southern Berkshire Health District and the Nashoba area, sixteen cities and towns have been given such assistance, and this has been much appreciated by the officials. Funds are available to continue this important service another year.

State Health Districts. A re-alignment of areas has been made whereby an additional district has been created, increasing the number from six to seven. This was desirable because the Metropolitan District as it existed was too large for adequate supervision by one health officer. The southern section of this district and some of the adjoining towns to the south were made into a new district. The District Health Officers have carried on their work very efficiently. They meet with the Director of the Division of Communicable Diseases once in two months and talk over their problems. At these meetings men prominent in some special field of health work or who have discovered some new method of procedure relating to public health are invited to address them. Visits are also made to the South Department of the Boston City Hospital where Dr. Place kindly shows them unusual cases of communicable disease and discusses diagnosis and treatment.

III. Communicable Disease

The total number of cases of communicable disease reported was 113,559 as compared with 83,288 in 1933. This increase was due to the widespread prevalence of measles early in the year in the central and eastern sections of the State. The other diseases that showed an increase were chicken pox, bacillary dysentery, German measles, and whooping cough. The only one of these that contributed appreciably to the death rate was whooping cough. This disease has been the leading cause of death from communicable diseases in children under five for years. As such, it merits greater attention from public health authorities. Gratifying declines were registered in several of the more serious diseases. Diphtheria and typhoid reached the lowest levels ever recorded and there was a reduction of nearly 200 deaths from tuberculosis. For the first time deaths from pulmonary tuberculosis fell below the 2000 mark, and the death rate from all forms of the disease was below 50 per 100,000. Infantile paralysis in 1934 was at the third lowest level ever recorded. Scarlet fever reached the lowest level since 1922. No case of smallpox has appeared in the State since February, 1932.

Outbreaks. No cases of typhoid, septic sore throat, or scarlet fever have been traced to milk during the year. Fifteen cases of undulant fever have been reported and in almost all there was a history of consumption of raw milk from a herd known to be infected with contagious abortion. More than the usual number of outbreaks of gastroenteritis have been investigated. The most extensive and explosive outbreak of this disease was traced to a polluted water supply produced by unsupervised workmen who were clearing brush on the watershed.

Anterior Poliomyelitis (Infantile Paralysis). This disease established a new low level for deaths and, with the exception of 1932, the lowest number of reported cases. Our supply of serum was ample without resorting to additional bleeding clinics. Consultants of the Department saw thirty-six cases with the attending physician.

Diphtheria. This disease furnished the most striking example of the benefit of immunization. The incidence of diphtheria in 1934 was barely one-fifteenth of the incidence in 1923, when diphtheria immunization began on a large scale in Massachusetts. Only 629 cases were reported as contrasted with 1041 the previous year. There was a reduction of about 40 per cent in cases, and 42 per cent in deaths. More and more boards of health are recognizing their responsibility in providing for diphtheria immunization. To aid them in getting appropriations for carrying on this work, letters were sent out near the end of the year to every munic-

ipality urging that an item be included in their budgets for this specific purpose. A survey was made by the Division of Child Hygiene of school health work and it was found that the average percentage of children immunized against diphtheria in 174 cities and towns was 48 per cent. This varied from 64 per cent in the larger cities to 41 per cent in the small towns. As two-thirds of the cases of diphtheria are in pre-school children, the greatest effort should be made to protect this group. For the use of boards of health, cards are furnished by the Department with the suggestion that they be sent to the parents of all infants when six months old, calling attention to the advantages of immunization and requesting that they take their children to their physician to have it done. If this procedure could be made universal, public clinics would be unnecessary. The family physician would do the preventive work and diphtheria would cease to be a public health problem.

Dysentery, Amebic. There were but thirty-one cases reported during the year, which is eight more than in 1933. Of these, a few were traceable to an infection in Chicago during the previous summer but so far as is known there have been no secondary cases. The publicity attending the Chicago outbreak resulted in physicians studying their cases more closely and some laboratories doing routine stool examinations. For this reason perhaps some cases who were simply carriers were diagnosed as having amebic dysentery, with some associated condition which produced symptoms. The diagnostic service which was set up last year as an emergency in conjunction with the Department of Tropical Medicine in the Harvard Medical School has now been transferred to the Bacteriological Laboratory which is now prepared to examine specimens both for the vegetative form of the ameba and for cysts.

Dysentery, Bacillary. The greatly increased number of cases of bacillary dysentery is due to the occurrence of several institutional outbreaks. In one of these institutions, several deaths occurred in previously debilitated patients. In some institutions the condition was recognized promptly and by active precautionary measures an extensive outbreak was averted. In all of these instances dysentery bacilli of the Hiss-Y strain were isolated. Although no figures as to the incidence of bacillary dysentery in the general population are available, there is very strong evidence that the disease occurs much more frequently than is suggested by the morbidity reports. In the healthy young adult an infection with the Hiss-Y strain apparently produces nothing more than a diarrhea of two or three days' duration. Many of the idiopathic diarrheas which may occur from time to time are in reality bacillary dysentery which entirely escapes recognition unless it happens to attack a small child, in whom the classical symptoms are produced.

Encephalitis Lethargica. In last year's report reference was made to the outbreak of encephalitis lethargica that occurred in and around St. Louis, the disease being somewhat different from the type of encephalitis usually encountered. The past year has seen the appearance of sporadic cases in this State but there has been no evidence of localization.

Epidemic Cerebrospinal Meningitis. Although the reported incidence of this disease was somewhat higher than for last year, the number of deaths reached the second lowest figure ever recorded. This record is probably due more to good fortune than to good management as there is nothing that can be done in our present state of knowledge to guard against this disease.

Gastroenteritis. During the past year there have come to the attention of the Department an increasing number of outbreaks of gastroenteritis. Although two or three of these were of an explosive nature definitely associated with food, the majority presented themselves as nothing more than unusual incidence of gastrointestinal disturbances in a community within a relatively short period of time. These were the type of cases that are frequently referred to as "intestinal grippe". Although there is no evidence that the etiologic agent is related to the organism that causes the usual type of grippe, there is increasing evidence that there is some sort of gastroenteritis that is spread through the respiratory tract. It is popular to attribute these incidents to a water supply as was done in three different communities, yet examination of the water showed no evidence of pollution and the distribution of the cases over a period of one to two months would definitely suggest some other mode of spread. In Fitchburg an extensive and explosive outbreak of gastroenteritis developed as a result of unquestioned pollution of the water supply. This occurred immediately after a heavy thaw with its attendant run-off and was unquestionably due to pollution of the watershed through C. W. A. workers who, in spite of warnings from this Department, had been permitted to work on the watershed without adequate precautions being taken as to the disposal of excreta. Several thousand persons were involved in this outbreak, which, however, was of but short duration. This illustrates the necessity of carefully supervising workmen on watersheds. If by any chance such a worker should be a typhoid carrier, a serious epidemic of that disease might result.

Measles. The past year has seen the highest incidence of measles ever reported, reaching a total of 44,817. The disease began to appear around Worcester during the closing months of 1933, becoming widespread in that city and all surrounding towns. As the year closed it had appeared in the Metropolitan area and was increasing rapidly, reaching its peak in March, when almost 10,000 cases were reported. The final result was an epidemic that swept the eastern half of the State. The high incidence of measles brought with it a sharp increase in the death rate. On the other hand, there is considerable satisfaction in the thought that the case fatality rate was lower than in any previous year except 1933. During this epidemic it was possible for Dr. McKhann of the Children's Hospital to gather further data as to the efficacy of placental extract. The results obtained in the prevention or modification of measles among those definitely exposed to the disease were so encouraging as to warrant a more extensive study in future years.

Pneumonia, Lobar. 1934 has seen the end of the wave of lobar pneumonia which went through the winter of 1933-34. The latter part of the year has seen the disease back at a fairly normal figure.

Rabies. The past year has seen a definite increase in the prevalence of rabies throughout the eastern part of the State. Two hundred and fifty-one positive heads were reported from the laboratory, as compared with 144 for the previous year. These have been very largely in the Metropolitan area, spreading northward into the eastern section of Middlesex County and the western border of Essex County. One human case of rabies developed, the victim being a five year old child, bitten on the face by a dog that was not located. The case was not officially reported as one of dog-bite, nor was antirabic treatment given. Another child, bitten by a proved rabid dog, died of a condition which was at first thought to be rabies but upon review was probably an encephalitis associated with the vaccine. This is one of the very rare complications which may occur as a result of such treatment. Although it occurs but once in several thousand

instances, it constitutes but another reason why more active measures should be exercised to control the spread of rabies among dogs and thereby avoid the necessity of subjecting persons to the necessary inoculations.

Evidence is accumulating in this State that the annual one-dose injection confers protection on a dog for a year. It is certain that the bulk of those so treated are actually protected even though an occasional failure may be recorded. Such work has been carried on in quite a number of communities. In some the conduct of a dog inoculation clinic has been coördinated with a restraint order, which has provided for exemption of those dogs recently vaccinated. This is probably the most effective type of restraint order as the ordinary ninety day restraint order is so irksome to dog owners as to be marked more by its violation than by its observance. There has been some agitation in favor of compulsory inoculation of all dogs. This, however, is difficult to carry out. It would probably be more practical to provide for free inoculation of dogs as partial return for the license fee. The 1934 Legislature completed an elaborate revision of the dog laws. Included in that was a provision whereby a city or town will be reimbursed by the county for both the cost of the vaccine and the treatment to a sum not to exceed $50 per individual case. This change will be of considerable benefit to the medical profession as in many instances the physician was in the position in the past of having cared for several members of a family bitten or exposed to a dog without receiving any remuneration whatever for his services. The law also empowers counties to enter into contract for vaccine to be furnished to their respective cities and towns. This may result in a considerable saving.

Scarlet Fever. With only 8,391 cases reported, scarlet fever reached the lowest recorded level since 1922. At the same time the deaths have fallen to about 75 which will constitute the second lowest death rate ever recorded for scarlet fever. Immunization studies which were begun in the fall of 1931 have been pursued even more actively during 1934, using as an immunizing agent a formalized toxin solution. Through the use of this solution, it has been possible to obtain in about 70 per cent of the children so treated a level of immunity sufficient to cause a negative Dick test. Immunization with this solution has been continued as a routine procedure in schools for the feeble-minded and in the Department's hospitals for childhood tuberculosis. In some orphanages and schools, children have received this treatment, and the studies have been extended to certain groups of nurses. In Wellesley, East Bridgewater, and Framingham, community programs have been begun, and as the year closed a limited community program is being carried on in the city of Worcester. The effect of this immunization as measured by the prevention of scarlet fever in those so treated has been extremely encouraging, no case having occurred in a child immunized to the point of a negative Dick test. This solution produces reactions which are so mild as compared with those following the usual scarlet fever immunizing agent that if its effectiveness can be demonstrated there seems little doubt as to its popular acceptance.

Septic Sore Throat. Two hundred and one sporadic cases of septic sore throat have been reported. The year was characterized by an apparent absence of any milk-borne outbreaks of this disease.

Smallpox. Nearly three years have elapsed since a case of smallpox has been reported in Massachusetts. The last one occurred in Fitchburg in February, 1932. From the point of view of the public health, this is extremely gratifying provided, however, that it does not lull us into a sense of complacent assurance that this freedom from the disease can be maintained without resorting to continued vaccination. The history of smallpox is full of such remissions and it must not be used as an excuse for being deceived by the present situation.

Tuberculosis. The last year has seen a decline in both pulmonary and extrapulmonary deaths to figures lower than ever heretofore obtained. For the first time in the history of the State pulmonary deaths fell below 2000, and the death rate from tuberculosis, all forms, below 50 per 100,000. At the same time there was a slight increase in the total cases reported which suggests a general improvement in diagnostic facilities throughout the State and their use by the practicing physicians. Through the out-patient departments and consultation clinics, the four State sanatoria examined 5,640 patients in 1934, an increase of 286 examinations over the previous year. The important rôle which thoracic surgery now plays in the treatment of pulmonary tuberculosis has made it necessary to provide for this essential service on a more permanent basis. The phrenic nerve surgery and bronchoscopic examinations are done in the institutions. Patients who require thoracoplasty have been sent to the Massachusetts General Hospital and in such cases the Board of Health has paid the Hospital at the same rate it had been paying the sanatorium. As this involves a loss to the Hospital of approximately three dollars per day for each patient admitted and the present ward facilities are not sufficient to insure prompt admission of sanatorium cases, it has become necessary to make a more comprehensive plan for providing major thoracic surgery for each patient. A tentative arrangement has been worked out with the Hospital by which a sufficient number of beds will be made available at ward rates plus a very modest fee for the surgeon, and the Department is asking an appropriation sufficient to meet anticipated charges on such an arrangement.

In order to relieve the long waiting list at the Middlesex County Sanatorium and to make tuberculosis beds in the State sanatoria more freely available to patients in all parts of the Commonwealth, the statute fixing the rate at Rutland was amended by the last Legislature to permit a charge to cities and towns of less than the actual cost of maintenance. A rate of $10.50 per week was subsequently set by the Department.

For some years it has been obvious that more adequate facilities will have to be provided for the treatment of tuberculosis in the western part of the State. The institutions in that territory have neither the capacity nor the equipment necessary for the modern treatment of tuberculosis and as a result patients are reluctant to accept hospitalization. To meet this need, the construction of a 250 bed unit for adult patients with pulmonary tuberculosis on the grounds of the Westfield State Sanatorium has been recommended and a bill providing for this will be introduced into the Legislature. By utilizing the existing facilities, a sanatorium would be constructed and maintained at a minimum cost and would be very acceptable to the territory served. When such provision is made, it would no longer be necessary to continue the small sanatoria at Springfield, Holyoke and Chicopee, and the Hampshire County Sanatorium at Haydenville would no longer be needed. As to whether it is continued would depend entirely upon the action of the Hampshire County Commissioners.

The other sections of the State with the exception of Middlesex and Bristol Counties appear to have sufficient beds for their needs. It is to be hoped that the additional buildings planned for the Middlesex

County Sanatorium will be constructed in the near future.

The Ten Year Program came to an end this year and decentralization of the work has begun very satisfactorily. Most of the county sanatoria have started, or are arranging to begin, examinations soon and some of the larger cities have already taken over the work. The State sanatoria are dividing the work with the counties according to geographical location. Children who have been diagnosed during the past years as having tuberculosis or are suspects will be followed up with annual examinations by the State clinic group. A statistical summary of the ten years' work in the school clinics is covered in the report of the Director of the Division of Tuberculosis. Briefly, we may say that 400,000 school children have been examined. These clinics have been held in practically every city and town in the Commonwealth and in some of them twice. This extensive program has brought the subject of tuberculosis, its diagnosis and treatment to the attention of parents, teachers, nurses and doctors and has created, we believe, a consciousness of the problem of tuberculosis which is bound to be of the greatest value in the application of further control measures. It is practical health education.

Typhoid Fever. The incidence of typhoid fever continued to decline during 1934, reaching a record low figure both for cases and deaths. There were but 134 cases reported as compared with 162 for last year. At the same time the deaths numbered only thirteen as compared with twenty-two the previous year. No cases were recognized that were directly traceable to either water or milk. The largest local outbreak during the year occurred in Mansfield where four cases occurred simultaneously. Although it was virtually impossible to ob tain accurate information, there is no question that these cases were related and directly traceable to a carrier.

The list of known typhoid carriers has grown from ninety-one at the beginning of the year to ninety-eight. Two carriers died from a condition having no relation to their carrier state; two underwent operations in the hopes of curing their condition; and four carriers were removed from the list as cured following gall bladder removal. Carriers found upon investigation of reported cases were thirteen, making a rate of 9.8 per 100 cases.

Of particular interest was an investigation carried out in Fall River of routine culturing of typhoid fever cases reported during recent years. Two new carriers were found in this way. The cases of typhoid fever are now so few that it is perfectly feasible to carry out such a program in any community.

Undulant Fever. Fifteen cases of undulant fever were reported as compared with eleven the previous year. In all instances the source of infection was apparently raw milk. Several of the victims during the past year have been sadly disillusioned as to raw milk, realizing for the first time apparently that milk from a model dairy might be a vehicle for the transmission of disease. The incidence of contagious abortion among the dairy cattle of the State is very high and the problem of eliminating this disease from the herds is one that is being given a great deal of study by the Department of Agriculture. The possibility of infection from this source is another argument for the general pasteurization of milk.

Whooping Cough. With 12,659 cases of whooping cough reported for the year, this disease reached a higher incidence than ever previously recorded. The case fatality, however, was extremely low. Although the death rate shows some decline, whooping cough still causes more deaths in children under five than any one of the other communicable diseases. It is to be hoped that a vaccine may be developed that will prevent or modify this disease as it is now one of the most serious public health problems.

Gonorrhea and Syphilis. About 6,500 cases of gonorrhea and 4,500 of syphilis have been reported this year, which is practically the same number as 1933. No special effort has been made to stimulate reporting or otherwise the number might have been considerably increased. Two hundred and seventy cities and towns have been represented in the reported cases. The total visits to the fourteen State-aided clinics have shown an increase of 2.6 per cent which indicates a tendency on the part of the patient to remain under treatment longer and visit the clinic more regularly. Some of the clinics have been reorganized and in one instance an assistant has been added to the staff. There is a gratifying tendency on the part of boards of health of the smaller communities to recognize their obligation to furnish treatment for patients with gonorrhea and syphilis when they cannot employ a private physician. Apparently the established clinics are receiving considerable revenue from this source.

Arsenicals. There has been an increase in the demand for arsenicals. About 5400 grams have been distributed at a cost of approximately $12,000.

Many lectures on the subject of gonorrhea and syphilis have been given and a large amount of literature distributed.

Division of Biologic Laboratories. The distribution of biologic products varies somewhat with the incidence of disease. With the decline in diphtheria there is a lessening demand for antitoxin and only about half of the amount is used now as compared with five years ago. Diphtheria toxoid is rapidly replacing toxin-antitoxin. In one month recently the amount of toxoid exceeded that of toxin-antitoxin being distributed. It is probable that in the near future the manufacture and distribution of toxin-antitoxin can be discontinued.

The use of scarlet fever convalescent serum has increased and more towns have availed themselves of the laboratory service in processing blood which they obtained from donors. Placental extract is now prepared at the laboratory for the study being carried on in coöperation with the Department of Pediatrics of the Harvard Medical School. The use of tuberculin for diagnostic purposes has materially increased. Scarlet fever toxoid is prepared for the experimental work being carried on to determine its value as an immunizing agent. Work is being continued on the production of a satisfactory alum precipitated diphtheria toxoid, but as yet none of this material from our laboratory is available for use. A distinct improvement has been made in the antipneumococcic serum. The product is more concentrated and shows less chill-producing qualities.

The Wassermann Laboratory reports an increase in the total number of specimens examined for syphilis, the complement fixation tests for gonorrhea, examination of dogs' heads for rabies, and agglutination tests for the bacillus abortus. On April 1, the routine use of the Wassermann tests was discontinued and the Hinton test made the standard method for the examination of blood for syphilis. This change in method permitted the examination of an increased number of specimens with the same personnel and the number of positive diagnoses was increased.

Bacteriological Laboratory. The demands on the laboratory have been getting heavier each year. More use is made of it by physicians notwithstanding the decline in the incidence of diphtheria and typhoid. The outbreaks of dysentery in the institutions during the last year and the more thorough

search for typhoid carriers greatly increased the number of stool specimens sent in for examination. The studies of the different methods of pneumococcus typing continue and it has been shown conclusively that the Neufeld method can be substituted for other methods without sacrificing accuracy. This is of great importance as the type of pneumococcus in a specimen can be determined in a very few minutes. Delay is thus avoided and the administration of serum restricted to Types I and II cases.

IV. Non-Communicable Disease

Division of Child Hygiene. The educational work carried on by this Division is varied, but it all has an important bearing on some phase of child health. Beginning with pre-natal and post-natal advice to parents it follows on through the pre-school period with Well Child Conferences and mothers' classes. Then come the Summer Round-Ups to see that the children are ready to enter school without physical handicaps and that they are vaccinated against smallpox and immunized against diphtheria. Then health education is carried on with the child through teaching hygiene in the schools. The examination by the physician is practical health education if properly and adequately carried out. The supervision of school lunches to see that suitable foods are provided and that the child is taught how to make proper selection is an opportunity to teach nutrition which should not be overlooked. Then examination of the teeth should be used to convey to the child the information that cavities and unclean teeth constitute an unhealthy condition of one of the most important organs of the body which may interfere with growth and development and possibly cause serious disease. An interesting project in the field of school hygiene was carried out in giving 2000 sixth grade children in different types of communities in the State a "Health Awareness" test prepared by the American Child Health Association. The purpose of this is to determine the value of methods and materials used in health education. A bulletin called "Contact" for distribution to school superintendents and school physicians is being issued four or five times a year and serves as a medium for bringing to the attention of these officials the newer developments in school medical service.

Nutrition Service. The services of the nutritionists have been much in demand by school officials to give advice in regard to school lunches and by welfare departments to supervise food budgets. Early in the year a school lunch committee was appointed made up of the Chairman of the Child Welfare Division of the Massachusetts Federation of Women's Clubs, representatives of the Department of Education, and of the Extension Service of the Massachusetts State College, with the Consultant in Nutrition of the Department as Secretary. Surveys were made by responsible women in the local communities for the purpose of finding the needs and to share the responsibility in meeting them. This investigation was made in about 170 cities and towns. When the figures were studied from the returns of the first 47,000 children either bringing their lunches or buying them at school, it was found that only one child out of four had milk, only one out of five had fruits and vegetables, only one out of seven had dark bread, only one out of five had as long as twenty minutes for eating lunch, and only one out of nine was getting a hot dish. This indicated that children were eating unbalanced lunches, even though nineteen types of organizations were giving assistance. A report was sent to each superintendent of schools concerned, noting the needs found and suggesting his appointing a committee to work with him to meet these needs. The results thus far have been that more needy children have been supplied with lunches, more responsible local organizations are working toward improving the school lunches, and more nutrition education of children, parents and teachers is being carried on.

Courses and lectures were given on nutrition to home economics teachers and nurses. The summer camps for children affiliated with the Massachusetts Tuberculosis League were given more adequate supervision this year than ever before. On request from the camp director, a nutritionist would spend two or three days observing and assisting in the preparation of meals. On the basis of our observations recommendations were then made for such changes and improvements as seemed desirable.

Early in the year the Consultant in Nutrition was appointed as an adviser to the State F.E.R.A. She has been called upon many times for advice as to the best way to utilize foods sent in to the State for distribution and as to suitable food budgets to be supplied to recipients of welfare relief. A Buying Guide for families on welfare aid and for persons with much reduced food allowances was prepared and distributed. Much assistance has been rendered to many welfare departments in different sections of the State in planning food allowances and methods of distribution.

Dental Nutrition Study. This is the third year that a dental nutrition study has been carried on in coöperation with Doctors Howe and Eliot of the Forsyth Infirmary on the children patients in the State sanatoria. Groups of children have been followed over long periods to observe the effects of adding tomato juice with and without the addition of Vitamines A and D obtained from haliver oil. In several communities where nutritionists are available there has been an effort made to consider cases of active caries as needing the aid of nutritional follow-up but the problem is so large that only the worst cases can be covered.

An important service has been contributed by the Committee on Public Relations of the Massachusetts Dental Society who have asked local dentists to furnish free examinations and consultations to members of 4-H clubs. The use of the dental certificate plan in schools is being urged and is meeting with favor in many communities. Splendid service is being given by the dental clinics and eleven new traveling clinics were established during the year. The dental health education and dental clinic service have developed rapidly in the rural sections. There is evidence of a steady growth in all phases of dental hygiene.

Health Education. More time was spent in consultation with visiting nursing associations in the development of local publicity programs. Lectures were given to many groups; pamphlets, posters and exhibits were prepared and widely used in the State. Four special numbers of the *Commonhealth* were published, the subjects covered being "The Handicapped", "Adult Hygiene", "Diabetes", and "Health Education". The inclusion of many important papers in these issues greatly increased the demand and made it necessary to print much larger editions.

Public Health Nursing. A series of lectures was given in nurses' training schools covering subjects pertaining to the control of communicable disease and other phases of public health. Tuberculosis nursing service has been featured in several communities and aid given to local nurses in the development of their programs for case finding and systematizing their work. Assistance has been given in the scarlet fever immunization clinics. Public health nursing institutes were held in six different areas of the State. The general subjects discussed were child health, and school and general public

health nursing. The attendance and interest shown were very gratifying.

Division of Adult Hygiene. The Division of Adult Hygiene, although devoting most of its time to the cancer program, has given some study and has issued pamphlets on diabetes, rheumatism, heart disease, and other chronic diseases. Over 23,000 pieces of literature have been distributed. One issue of the *Commonhealth* was devoted to "Adult Hygiene". The Health Forum, which combines newspaper and radio activities, has been changed during the year; no answers to questions requesting medical advice are given. Instead, two medical topics are discussed each week over the radio. Both of these articles are printed weekly in the Boston Globe and one is sent to seventy-four newspapers throughout the State. A new series of radio programs entitled "The Health Review" was started in January. Broadcasts sponsored by the Massachusetts Medical Society continued throughout the year. Altogether, 143 broadcasts have been given.

Cancer. The Division of Adult Hygiene has devoted the greater part of the time to the cancer program. One issue of the *Commonhealth* was devoted entirely to "Cancer" and another to "Diabetes". Both of these were prepared for general distribution to all physicians in the State as well as to the regular mailing list. A Cancer Clinic Bulletin, designed primarily for physicians working in the cancer clinics, is now mailed to about one-fourth of the physicians in the State. It contains abstracts of articles on cancer and items of interest regarding the cancer program. Experience in the cancer clinics has indicated that the publicity methods used have not accomplished the desired results and therefore the program has been changed to lessened activity through the newspapers and to effect a more concerted drive for education of the laity through the medical profession. The study started last year of the death records being collected on cancer and tuberculosis has been continued. The investigation into the etiology of cancer and the evaluation of cancer mortality records, aided by a grant from the Rockefeller Foundation, is progressing. A study of cancer patients from admission to death is being carried on. A survey of the cancer clinics indicates that the bulk of cancer patients are being referred to the clinics by physicians. There has been a steady increase in this trend since the inception of the program. State-aided clinics are being maintained in Pittsfield, North Adams, Boston, Brockton, Lawrence, Lowell, Lynn, New Bedford, Newton, Springfield, Worcester, Fitchburg, Gardner, and Greenfield.

Pondville Hospital. Through the Emergency Public Works Commission, funds have been made available for a much needed service and surgical building and a twenty-five bed addition at Pondville. It is expected that these buildings will be ready for occupancy by August, 1935. This will furnish a thoroughly modern operating unit, increase the capacity of the hospital by twenty-five beds, and relieve the present congestion in the out-patient department. Although there has been a continued growth in all services at Pondville during the year, it is evident that additional service to cancer patients must wait for the completion of the new buildings now under construction. There were 1,222 admissions, twelve more than last year. The out-patient visits rose to a new total of 4,619. The average length of hospitalization was further reduced from 37.1 to 33.6 days in an attempt to shorten the waiting list for admission, but we believe that any further reduction in the average period of hospital treatment for cancer patients is not desirable from the standpoint of the patients. The increase in all branches of medical work has been assisted by the addition of one physician and three nurses to the resident staff. Operations increased 14 per cent and autopsies 12 per cent during the year. The need for additional employees' quarters was recognized by the engineers of the Emergency Planning Board who recommended a separate dormitory building. The request for a 100-bed dormitory has accordingly been included in the 1935 budget.

SPORTING EVENT

An accusing finger points to the adverb "almost" as among the more perilous words in the English tongue. Last fall Princeton almost defeated Yale on the gridiron. It had the better team but Yale won. Last September Endeavour almost beat Rainbow. She was the better boat but she lost. Many a pugilist has almost won his fight just before he took a knockout on the chin.

At the moment we are combatants in the greatest sporting event on record—man against the tubercle bacillus. For centuries our opponent has held the championship, but for the past thirty years one round after another has been going to man. We have reached that perilous stage in the contest when our friends are cheering us on with the conviction that we have almost won.

The 1935 round sees us beset with the risk of overconfidence on our own part and the danger of public apathy toward a fight when victory seems assured. Other contests with cancer, heart disease, diabetes, and mental ills distract attention. It is to our equal interest that they be fought with vigor. But this is possible without menace to our own.

Our opponent is still far from being on the mat. He is an adroit enemy. The pluck and strategy we put into the fight in 1935 and the years ahead will tell whether we almost win by losing or whether the victory shall be complete.

The year opens with no new plan of campaign to announce, but last year's triumphs confirm the tried and trusty methods of the past. For despite depression and poverty, the death rate has dropped once more.

For the first time in human history the chance is ours to wrest the championship from our most ancient enemy. The immediate future holds the answer to the question, "Shall we almost win, or shall we conquer?" — Kendall Emerson, *Massachusetts Health Journal.*

CASE RECORDS
of the
MASSACHUSETTS GENERAL HOSPITAL

ANTE MORTEM AND POST MORTEM RECORDS AS USED IN WEEKLY CLINICAL-PATHOLOGIC EXERCISES

EDITED BY RICHARD C. CABOT, M.D.

CASE 21181

PRESENTATION OF CASE

First Admission. A fifty-two year old Russian shoemaker entered complaining of abdominal pain.

For the past fifteen years he had occasional attacks, about one every two weeks, of sour eructations after meals and occasional induced vomiting. The vomitus never contained blood. He had no pain until three months before entry, when he began to have attacks of sharp abdominal pain beginning usually in the left upper quadrant and spreading across to the right. The pain, which occurred about once a day, usually came on after meals, lasted about an hour, and was not relieved by soda. The belching and vomiting had increased. During this period he also felt an inconstant mass in his upper abdomen. There was no history of jaundice or bloody or tarry stools. He had lost fourteen pounds in weight in the past year.

His family, marital and past histories are noncontributory.

Physical examination showed a fairly well-developed and nourished man in no acute distress. The heart and lungs were not remarkable. Just to the right of the midline in the epigastrium was an ovoid, moderately hard, irregular, freely movable, non-tender mass approximately 6 by 4 centimeters. Upon firm pressure the shape and location of the mass could be changed and a few minutes later the mass could be felt just under the left costal border. The liver and spleen were not felt. There was no ascites.

The temperature was 99.2°, the pulse 100. The respirations were 20.

Examination of the urine was negative. The blood showed a hemoglobin of 80 per cent. The white cell count was 15,000, 84 per cent polymorphonuclears. Two stool examinations gave positive guaiac tests. A Wassermann test was negative. A bismuth meal showed a small residue in the stomach. The delay in filling the mid-portion of the stomach suggested an hourglass stomach.

He was transferred to the surgical service where an exploratory laparotomy revealed an extensive tumor of the lesser curvature and posterior wall of the stomach. A partial gastrectomy and posterior gastro-enterostomy were performed. The pathologic report was adenocarcinoma without involvement of the attached mesenteric glands. He had an uncomplicated convalescence and was discharged two weeks after operation.

Second Admission, nineteen years later.

The patient was perfectly well until approximately three months before entry when he began to have attacks of abdominal pain similar to those that he had on his first admission. At this time, while on his way to work after breakfast, he developed colicky pain in his epigastrium which gradually radiated to his lower abdomen. The attacks occurred almost daily, lasted four or five hours and during them he felt nauseated and often vomited. Recently he had developed anorexia and increased constipation, had become progressively weak and had lost twenty pounds.

Physical examination showed a well-developed and undernourished man lying quietly in bed. There was a small movable left supraclavicular gland. The heart and lungs were negative. The abdomen was scaphoid and there was a scar to the left of the midline in the upper abdomen. A rectal examination was negative. The blood pressure was 140/75.

The temperature was 98°, the pulse 80. The respirations were 24.

Examination of the urine was negative. The red blood cell count was 3,660,000, with a hemoglobin of 50 per cent. The white cell count was 7,000, 63 per cent polymorphonuclears. Two stool examinations showed positive guaiac tests.

Gastric analysis showed grossly bloody contents and no free hydrochloric acid. A gastrointestinal series showed a resected stomach with no gross abnormalities. A chest plate was negative except for some aortic tortuosity. A barium enema showed marked spasm of the sigmoid and of the splenic flexure. There was no obstruction of the flow of barium in the colon. Gastroscopic examination showed a well-healed posterior gastro-enterostomy stoma. It was of smooth contour except for the right margin where there appeared to be an elevated, round, whitish-red polypoid area.

Approximately two weeks after admission an exploratory laparotomy was performed.

DIFFERENTIAL DIAGNOSIS

DR. BETH VINCENT: If you have read the history you will see that it concerns a man of seventy-one years who nineteen years before had undergone an operation for cancer of the stomach. At this operation they found tumor which involved the lesser curvature and posterior wall of the stomach and a partial gastrectomy and posterior gastro-enterostomy were performed. The pathological report showed adenocarcinoma without involvement of the attached mesenteric

glands. The individual had a good convalescence and left the hospital in two weeks, apparently an excellent result from a good operation.

He comes into view again nineteen years later when he complained, three months previously, of attacks of abdominal pain similar to those he had at his first admission. What is the most likely cause of these attacks of pain? We find that he has no lesion of the chest, heart or pulmonary structures, that would suggest a referred pain. So I think we must take it for granted that we are dealing with an abdominal lesion. He has no temperature and no elevation of white count and I suppose we can safely eliminate an inflammatory condition. He has had an operation, under which circumstances one should always give some consideration to a possible obstruction, subacute or complete, but, in this case, the history does not suggest obstruction.

Now the positive findings—we have two stools which show blood, and we have a gastric analysis that showed grossly bloody contents. Therefore, I should say that this indicated some lesion of the gastro-enteric tract with a break in the continuity of the mucous membrane; in other words, an ulceration, either malignant or benign. The rectal examination is negative, so we know that it is not a low cancer. The x-ray of the colon shows no sign of tumor there, although there was some spasm. The x-ray report of the resected stomach states there was no gross lesion visible there. I think it is fair to say, however, that the x-ray examination of a stomach that has been operated upon is less likely to be accurate than one of a stomach that has not been operated on.

In addition he has a gastroscopic examination which shows something positive, an elevated, round, whitish-red polypoid area near the stoma. Although it is nineteen years since the first operation I suppose this man could have either a recurrent or a second occurrence of cancer which would give him blood in his stomach and blood in the stools; and even if it is nineteen years after the Billroth II operation the question may be raised whether he could have a gastrojejunal ulcer, although he has no free hydrochloric acid and probably the gastric juice is not so corrosive as that from a normal stomach. I do not think I am able to go any farther than that in the diagnosis. I should think he was more apt to have malignant disease of the upper gastrointestinal tract, either a very late and unusual recurrence, or a second occurrence; or, what is less likely, a benign ulcer which, in spite of the resection of the stomach and the low acid values, might be gastrojejunal. He has lost so much weight that I expect the operator found a lesion of some seriousness.

X-ray Interpretation

Dr. G. W. Holmes: A film of the chest shows normal lung fields for a man of this age with slight prominence of the aortic knob, no enlargement of the heart, normal position of the diaphragm and clear costophrenic sinuses—a normal chest. I have a series of films of the colon but I am unable to find in this collection of films any of the stomach except this one which is negative. This is the transverse colon, partially filled with barium. One film that was taken on paper shows the spastic contraction of the colon described in the report. The mucosal markings in that portion of the colon that was contracted look to me to be perfectly normal. The colon does seem rather large when it is fully injected. From the notes and from these films I am unable to diagnose a definite organic lesion in any part of the gastrointestinal tract. There does seem to be more dullness in the upper abdomen than one usually sees, which may mean some enlargement of the liver.

Dr. Charles L. Scudder: I should like to ask Dr. Holmes to comment on Dr. Vincent's opinion that x-ray examination of a partially resected stomach is not so satisfactory a roentgen examination as that of a stomach not resected.

Dr. Holmes: I think I would agree with Dr. Vincent. Once the surgeon has interfered with the viscera we do not have a normal picture. There are more variations and in order to decide whether a finding is pathologic we have to say first that it is not some variation of the normal. If we are looking for a definite lesion such as ulcer we should be able to demonstrate it, but even then it is more difficult as the postoperative stomach is usually high up under the ribs. So I should say we are distinctly handicapped.

Clinical Discussion

Dr. Tracy B. Mallory: I am sorry Dr. Leland is not here to describe the operative findings. I will read his very careful operative note.

"Exploration showed the transverse colon to be lying in the upper angle of the wound in the area usually occupied by the stomach. There were dense adhesions between the liver, transverse colon and the stomach. Palpation of the region of the pancreas revealed what were thought to be multiple nodular lesions. Subsequently these nodules were found to be an involvement of the stomach from the antrum up to the cardia, along the lesser curvature. The stomach was freed from the liver by scissors dissection. While the stomach was being freed from the liver, an opening was made in the anterior wall of the stomach through a hard cancer mass. This permitted exploration, with the examining finger, of the inside of the stomach, showing numerous nodules and papillary projections into the lumen of the stomach. The stoma of the anastomosis was distinguishable because of the redundancy of the jejunal

mucosa. It was possible to pass the finger down into the jejunum without difficulty. There was no food in the stomach, and when the opening was made only a few drops of gastric juice escaped. A specimen was removed from within the stomach for microscopic examination." So that I think he pretty thoroughly ruled out any jejunal ulcer. He made a further note saying, "This case is of extraordinary interest in view of the fact that nineteen years have elapsed since the preliminary operation. Although the x-ray department failed to detect the evidence of cancer, it is reasonable to bear in mind the fact that the number of nineteen year Billroth II recurrences is very limited."

Clinical Diagnosis (Preoperative)

Carcinoma of the stomach, cardiac portion.

Dr. Beth Vincent's Diagnoses

Malignant disease of the upper gastrointestinal tract.
Gastrojejunal ulcer?

Pathologic Diagnosis

Adenocarcinoma of the stomach.

Pathologic Discussion

Dr. Mallory: The patient convalesced from the exploratory operation and left the hospital of course with a hopeless prognosis. A small portion of the stomach was excised for biopsy and showed adenocarcinoma very similar in appearance to that of the one removed nineteen years ago. Histologically it seems to be a little more rapidly growing, a little more definitely malignant than the first one. The interesting question in this case, of course, is whether we are dealing with a recurrence or with the redevelopment of tumor in the same organ, but I do not see any possible way to decide which it is.

A Physician: Was that supraclavicular gland a metastasis?

Dr. Mallory: I imagine so but do not see how that helps us.

A Physician: Could not that gland mean considerable involvement outside the stomach itself? Or would it be present from just tumor of the stomach?

Dr. Mallory: A gland in that location frequently is the first evidence of metastases in cancer of the stomach; you see it when you can pick up nothing in the liver or anywhere else.

My own preference is to regard this as a new tumor. Recent statistical studies make it constantly more evident that multiple malignancy is the rule rather than the exception if the patient survives the first tumor long enough to give time for development of a second one.

CASE 21182

Presentation of Case

First Admission. A twenty-five year old white American brakeman entered for treatment of a urethral stricture. He had had gonorrhea six and five years before.

On physical examination several ulcers were found on the penis. He was treated with potassium iodide and mercury and discharged about one week later.

Second Admission, six years later.

A plastic operation for a urethral stricture was done and a periurethral abscess incised and drained.

Third Admission, one year later, at the age of thirty-two.

At this admission he entered complaining of "dyspepsia".

Five years before this entry he developed a gnawing sensation high in the stomach which was relieved by food. This sensation was quite mild but was associated with sour eructations. Two years before entry these symptoms returned and were much more severe. Almost immediately after eating he had a very severe pain over his sternum which was followed by vomiting. The vomitus, however, contained no blood. Soon it was impossible for him to get any food down and he was forced to subsist on liquids. During a six month period he lost sixty-five or seventy pounds in weight. Slowly this pain and discomfort abated and he began to eat solid foods with a gain of forty-five pounds in weight during the next five months. Approximately ten months before entry all these symptoms recurred. In addition he had a hungry, gnawing feeling in his epigastrium. He lost about fifty pounds in weight and for the past three months was able to take only fluids by mouth.

Physical examination showed a well-developed but poorly nourished man with marked loss of subcutaneous tissue. His pupils were equal, regular and reacted normally. Examination of the heart and lungs was not remarkable. The abdomen was soft, tympanitic and non-tender. No masses were felt. The spleen was not felt. The liver was felt 2 centimeters below the costal margin by percussion. The penis showed hypospadias and a punched-out scar on the dorsum. The reflexes were normal.

The temperature was 98°, the pulse 60. The respirations were 16.

Examination of the urine was negative. The blood showed a hemoglobin of 75 per cent and a white cell count of 10,000, 66 per cent polymorphonuclears. A Wassermann test was strongly positive. A gonococcus complement fixation test was strongly positive.

Fluoroscopic examination of the stomach showed slight delay in the passage of liquids

into the cardia. Solid food remained six minutes. A film showed slight dilatation of the lower end of the esophagus. No definite outline of the stomach was seen. The bismuth in the fluid passed through the stomach almost immediately. A stomach tube met slight spasm at the cardia but passed easily. There were no fasting contents, and following a test meal gastric analysis showed no free hydrochloric acid. A guaiac test was negative. The capacity of the stomach was not attempted because of the exquisite pain during the washing of the stomach.

An esophagoscopy showed normal esophageal walls. The instrument passed into the stomach with only slight resistance. The esophagus was dilated so that a No. 32 bougie could be passed. Following this procedure the patient was able to swallow much better. He refused to stay for further treatment and was discharged approximately two weeks after admission.

Fourth Admission, approximately one month later.

Since discharge he continued to have the same symptoms. Following meals he had a sensation of fullness with discomfort high in the epigastrium. This condition was relieved by vomiting and aggravated by the eating of coarse foods. He was never able to eat a large quantity of food and vomited small amounts repeatedly until relief was obtained. There was no history of tarry stools.

Physical examination was the same as on his previous admission.

On the fourth day an exploratory laparotomy was performed. The whole stomach was firm and thickened, as if it contained an excess of fibrous tissue. The pylorus was patent, the duodenum and jejunum were normal. No tumor was felt at the cardiac end of the stomach close to the esophageal opening. Nothing further was done. It was felt that he had syphilis of the stomach and he was given antiluetic treatment in the form of intravenous salvarsan. He was discharged three weeks after entry to be followed in the Out Patient Department.

Fifth Admission, twenty-two years later, at the age of fifty-two.

Following his previous discharge from the hospital he was seen periodically in the Out Patient Department for ten years. Four years after discharge his Wassermann test was still positive. Nine years after discharge he had a flare-up of gonorrhea due to re-exposure. The following year his Wassermann test was reported negative.

Three years before entry he developed pain across the lower lumbar region which varied in intensity, lasted from three to five hours and was relieved by hot applications. It came on every day, occasionally two or three times a day, started suddenly and eased up gradually. These attacks continued for about two years, but gradually became less frequent and less severe. During the past year he had attacks of "stomach pain" coming on chiefly at night after he had been asleep for about three hours. He would awake suddenly with vague discomfort and dull pain which seemed to spread across the whole epigastrium. It did not radiate although it sometimes moved up over the sternum. The attack subsided in about half an hour. There were no cramps, nausea or vomiting associated with these attacks. Since his discharge he had lived on a liquid and soft-solid diet. Solid food appeared to lodge in the epigastrium to the left of the midline and after a short period slipped down below this apparent point of obstruction. If the food did not go down he drank water, put his finger down his throat and vomited. There was no other vomiting except when induced. His bowels were always regular although during the six months before entry they had been looser than usual. They never contained blood or formed food.

Physical examination showed a well-developed but emaciated man not acutely ill. The heart and lungs were not remarkable. In the left upper quadrant near the midline was a cylindrical, firm, slightly tender mass which descended upon respiration. The blood pressure was 110/70.

The temperature was 98°, the pulse 80. The respirations were 20.

Examination of the urine showed a very slight trace of albumin and an occasional white blood cell and red blood cell. The blood showed a red cell count of 4,230,000, with a hemoglobin of 85 per cent. The white cell count was 16,800, 85 per cent polymorphonuclears. The stools were negative. A Hinton test was negative.

A gastric analysis showed no free hydrochloric acid even after histamine. The extraction of gastric specimens was not satisfactory because only very small amounts could be obtained. A gastrointestinal series showed that the passage of barium was delayed at the esophageal orifice. About 85 per cent of the barium remained in the esophagus and slowly trickled into the stomach, which was extremely irregular in outline. The normal relief of the stomach was absent and there were numerous irregular broad bands of clearance with minute channels through which the barium flowed rapidly. The stomach was fixed in position. The duodenum was connected to the stomach in a vertical line. The total area occupied by the stomach was about half the normal.

He was discharged to the Out Patient Department ten days after admission.

Final Admission, six months later.

Since discharge his hunger pains had persisted and he had continued on frequent bland

feedings for about one month. During the next three months he lost about ten pounds in weight and did not adhere to his diet. He worked as an elevator man. He soon developed pains and aches in his shoulders, chest and abdomen. Two weeks before entry these apparent rheumatic pains extended all over his body, including his chest. Two days before entry he had severe pain in the region of his heart which he did not distinguish from his rheumatic pains. Several observers stated that the pain came on at night and made him scream out. From that time on he had marked shortness of breath and persistent pain and soreness in the left chest. He was finally admitted to the emergency ward in the evening.

Physical examination showed an emaciated, dehydrated, pale, cyanotic man. There was edema of the left chest wall with obliteration of the interspaces. The left chest was flat to percussion with diminished to absent breath and voice sounds. The back was not examined. No heart pulsation was felt in the left chest but it could be palpated 8 centimeters to the right of the midline. The sounds were of poor quality. The blood pressure could not be obtained accurately but was about 50 systolic. The temperature was 100°. The respirations were 40.

Chest tap on the left gave 30 ounces of cloudy yellow fluid containing stomach and upper intestinal contents. Methylene-blue given by mouth immediately appeared in the aspirated fluid. He was admitted to the ward but rapidly failed and died two days after admission.

Differential Diagnosis

Dr. E. D. Churchill: The first two admissions were at the age of twenty-five and thirty-one and were initiated by a stricture of the urethra of gonorrheal origin. On the third admission we begin to encounter the symptomatology of the lesion that concerns us for the rest of this man's life. There are two or three very interesting and unusual aspects of his gastrointestinal symptoms at the age of thirty-two. I call your attention particularly to the very severe type of pain, its position over his sternum, its association with vomiting, and its association with difficulty in swallowing. We note the extraordinary violence of these symptoms, in that over a period of six months he lost sixty-five or seventy pounds in weight, and also the fact that this course was self-limited, that his pain and discomfort abated and that he gained forty-five pounds in weight in the next five months. This is quite an unusual story and entirely out of scale with the usual story of a peptic ulcer or with the course of a gastric carcinoma.

At the time that he entered the hospital he was having his second exacerbation and had lost fifty pounds of weight. Again he was able to take only fluids by mouth. The physical examination at that time was essentially negative except for emaciation, the penile scar and the strongly positive Wassermann. X-ray examination at that time was interesting in that there was some delay in the passage of liquids into the stomach and slight dilatation of the lower end of the esophagus. There is no description given of the stomach itself, although it is stated that the bismuth passed through this organ very rapidly. There was no estimation of the capacity of the stomach because of the exquisite pain. So we have as positive findings failure to outline the walls of the stomach by x-ray and lack of acidity by gastric analysis. I suppose because of this delay and because of symptoms of swallowing an investigation of the esophagus was carried out which was shown to be normal. A No. 32 bougie was passed readily into the stomach. This somewhat relieved the swallowing and the patient left the hospital. One month later he reëntered. His symptoms had kept up, again associated with vomiting and inability to eat a normal quantity of food. There is no history of bleeding either on this admission or at the previous admission. An exploratory laparotomy was performed and the stomach described as follows: "The whole stomach was firm and thickened as if it contained an excess of fibrous tissue. The pylorus was patent, the duodenum and jejunum were normal. No tumor was felt at the cardiac end of the stomach close to the esophageal opening." The diagnosis was syphilis of the stomach and nothing was done except to discharge the patient on antiluetic treatment. The convalescence was apparently without incident.

He was followed for a number of years and given vigorous antiluetic treatment. Four years later his Wassermann was positive but nine years later it was negative. The gonorrhea again had an exacerbation. Then he appeared twenty-two years after this diagnosis of syphilis of the stomach, at the age of forty-nine, with further gastrointestinal complaints. This time there seemed to be more pain, particularly across the lower lumbar region, relieved by hot application.

One year before his last admission he suffered from attacks of what he called "stomach pain" coming on at night after he had been asleep for three hours. Cecil's Medicine describes pain coming on at night as one of the characteristics of syphilis of the stomach.

Since his discharge twenty-two years ago he had lived on a liquid and soft-solid diet because solid foods seemed to lodge in the epigastrium and only after a period slipped down through what he thought was the point of obstruction. If the food stuck he put his finger down his throat and induced vomiting or swallowed water.

It is interesting that his blood is reported as

being normal because we might look for the development of pernicious anemia. The Hinton test, supposed to be more sensitive than the Wassermann, is negative. The gastric analysis shows no free hydrochloric acid even after histamine. I wonder if they really passed the tube into the stomach or whether they were aspirating material from a dilated esophagus.

As to the gastrointestinal x-ray series, there is no comment on dilation of the esophagus except it is stated that eighty-five per cent of the barium remained in the esophagus. We would like to know how much was given him. If it was a regular barium meal and eighty-five per cent remained in the esophagus it is considerable dilatation. There is no direct statement as to whether the esophagus is dilated, as we should expect it to be from this long story and from the pathology which we know is present. The stomach itself is described as being extremely irregular in outline, the normal outline is absent and there are numerous irregular broad bands of clearance with minute channels through which the barium flowed rapidly. The stomach was fixed in position. The duodenum was connected to the stomach in a vertical line. The total area occupied by the stomach was about half the normal. I think we should expect a more accurate visualization of the pathology here from the x-ray examination than is given to us in this report.

DR. TRACY B. MALLORY: "Patient is able to ingest a glass of barium rapidly and about eighty-five per cent of this barium remains in the esophagus. The esophagus is moderately dilated down to the stomach."

DR. E. D. CHURCHILL: It was only "moderately" dilated.

The next admission was six months later. His hunger pains had persisted and he had continued on bland feedings for about a month. He lost another ten pounds in weight, although he had been working as an elevator man. He soon developed pains and aches in his shoulders, chest and abdomen and when finally admitted to the emergency ward was apparently in a moribund condition. The signs in the chest were obviously interpreted as fluid although absent breath and voice sounds are not wholly characteristic of fluid.

The terminal picture is very unusual and I do not know why he died. We know that six months before he had what is described as only moderate dilatation of the esophagus. As I read this over this morning I wondered whether this dilatation was not much more extensive than we realized and that perhaps the aspirating needle was inserted through the left chest into an enormously dilated esophagus. I have never heard of this being done but in some instances of an enormously dilated esophagus with long-standing cardiospasm, it would be perfectly easy to tap it with a needle and to obtain thirty ounces of just the type of fluid that is described here. Is there any reason to believe that there has been erosion and perforation of the esophagus or the cardiac end of the stomach into the pleural cavity, which would be the other condition that would give you this terminal picture? I have never seen it happen but it is possible. It seems to me that syphilis of this duration, adequately handled, would not be progressive and cause perforation. If there is a perforation present I should expect it to be a perforation of an extremely dilated esophagus. So without being able to make a diagnosis in this terminal state I would suggest that the exploratory needle entered the esophagus and that the man died of obstruction of the left bronchus and involvement of the left lung with pneumonitis from an enormously dilated esophagus.

I do not see any reason to doubt the former operative diagnosis of syphilis of the stomach. The whole case seems to bear that out. The differential doubt that must have been present in the mind of the operator at that time in regard to diffuse carcinomatous involvement of the stomach has been dispelled by the long duration of life on the part of the patient. So I should think that Dr. Mallory would report a stomach that looked about like the operator described it, replaced by fibrous tissue in the submucosa and a fibrous coating with practically complete obstruction at the cardiac end, more than moderate dilatation of the esophagus and death from atelectasis of the left lung with pneumonia or possibly an erosion of the esophagus into the left pleural cavity.

DR. LELAND S. MCKITTRICK: Dr. Churchill, have you any explanation as to why the bile should be there? What are upper intestinal contents doing in the pleural cavity?

DR. CHURCHILL: With a greatly contracted stomach I should expect duodenal contents to regurgitate freely into the esophagus.

DR. MALLORY: Dr. Scudder, will you tell us about the first operation.

DR. CHARLES L. SCUDDER: I hesitate to say a word before an active clinical group but I have been interested in this particular case and I think there are several things that are especially significant. The first is that the incidence of syphilis of the stomach is extremely low. Then, this particular instance illustrates the fact that syphilis may exist for a very long time as a general disease and perhaps give no other evidence of trouble than in the original spot of its appearance.

As to the findings at operation, I believe even to-day we depend a great deal upon the gross appearance of the stomach in syphilis or to put it in another way, the gross appearances are of very great importance to the surgeon who opens an abdomen in determining the presence or absence of syphilis of the stomach because the re-

moval of a piece for biopsy is usually of very little value. The surgeon takes a piece probably from the periphery of the lesion. Moreover by x-ray examination an exact diagnosis is not possible in many instances, since, as Dr. Churchill has intimated, the lesion is in the submucosa.

In this particular instance the appearance of the stomach was that of a deformed organ, with involvement of the whole stomach except for the pylorus. There was no obstruction at the pylorus at the time; it was patent and by that I mean that the forefinger above in the stomach and the thumb in the duodenum could be brought together easily in the pyloric ring. The surface of the stomach showed a uniform, smooth, diffuse thickening and I think in this particular instance there was no suggestion at the time that it was carcinoma—it is a good long while to remember back—but from the story and description in the record there was no evidence of carcinoma. The evidences of carcinoma in the stomach are very definite to the surgeon at the operating table but in this instance none of these were present. There was a diffuse involvement, with a firm feel; but it did not have the hardness of carcinoma.

There is one thing that occurs to me that is of interest. The clinical diagnosis may often rest between carcinoma and syphilis of the stomach. The question might perfectly properly come up in any case clinically, given an individual with a positive Wassermann, positive spinal fluid, with symptoms of dyspepsia, gastric symptoms, and with some changes evident in the x-ray examination indicating that there was something happening in the stomach. Should cancer be actively considered in such a diagnosis, and, if so, would one be justified in using the therapeutic salvarsan treatment in a case under these conditions rather than exploratory laparotomy? I think it should not be given in these cases. Laparotomy should be done at once because possibly time would be saved if it is carcinoma and it might be that the carcinoma could be removed.

Another point is that in the presence of syphilis of the stomach at the operating table, when the absence of cancer is proved conclusively, very little plastic surgery should be done. Even when the lesion is localized I doubt whether it is desirable to do any form of plastic other than a possible gastroenterostomy in the case of actual pyloric obstruction.

Dr. G. W. Holmes: This patient had an examination many years before his last admission which showed some dilatation at the cardia with some general enlargement of the esophagus. At his next examination, which was six months before his death, he showed an esophagus that would hold about a glass of barium, and a very small stomach. It seems unlikely to me that a condition which had been going on for years would suddenly increase to an enormous size and be injured by the tapping needle. I should not expect his esophagus to have changed much in the last six months and if this is so he did not have a particularly large esophagus. He had as far as I can make out from the report the type of esophagus that you would expect to see when the stomach is very small. I should rather expect that the esophageal dilatation was due to small stomach rather than anything in the esophagus or at the cardiac orifice.

The examination of the stomach itself shows it to be extremely small, with a narrow lumen, its emptying is rapid and there is absence of the normal mucosal markings. This is the picture that we have seen in cases of so-called syphilis of the stomach. Scirrhous carcinoma of the stomach will give practically the same picture. There is nothing in the note to suggest an ulcerating lesion. The examiner was unable, evidently, to demonstrate any ulcer crater in the stomach; but I think one should not accept this statement fully because the stomach was very small and high up under the ribs and the examiner says he was unable to reach it with his hands. It would be very easy to miss an ulcerating lesion in this type of stomach.

Dr. Churchill: Is there any note in the clinical record as to the point of the chest tap?

Dr. Alfred Kranes: It was in the posterior axilla. He was lying down in bed.

Dr. Churchill: It would be quite difficult to get a needle into the esophagus from the axilla, I should think.

Dr. Scudder: May I ask a question? I happened to see the statement that in such cases of long-continued syphilis, with syphilis of the stomach, that there is usually atrophy of the left lobe of the liver and hypertrophy of the right lobe. It was spoken of by Stokes in his monograph as rather significant and pathognomonic of syphilis of the stomach that if the surgeon in operating discovers a small left lobe of the liver, together with gastric lesions and hypertrophy of the right lobe, it probably is syphilis. I wondered if in this case you would be able to report an atrophied liver.

Dr. Mallory: I can show you best by a diagram.

Dr. McKittrick: May I ask one more question? I am sorry to be annoyed by this bile but I would like to ask Dr. Churchill a question. One might reason from the very severe attack of pain that he had perforated his esophagus. I would like to ask if he thinks that the negative pressure in the chest might cause a reflux of duodenal contents through that hole and into the pleural cavity?

Dr. Churchill: I should think if a free perforation of the esophagus was present with a fibrosed and shortened stomach that intestinal contents would have free passage upward.

DR. MCKITTRICK: It is quite different from a normal stomach.

DR. CHURCHILL: Exactly, you have a much shortened tube.

DR. C. M. JONES: I had this patient x-rayed by Dr. Hampton six months after I left the service because his symptoms were still unrelieved. We had a hard time to find the stomach in the fluoroscopic examination. That might answer Dr. McKittrick's question. The duodenum was up where the cardia ought to be,—a little tube of irregular stiff tissue. It was only at the last that he developed symptoms other than those of a very small viscus.

DR. MALLORY: It is interesting to remember that at physical examination a mass was felt and yet the x-ray examiner says the stomach was so far up he could not palpate it.

DR. JONES: As I remember it the duodenum was quite large and pulled over to the left of the midline. He was very thin and they may have palpated the duodenum.

DR. HOLMES: That observation was made when the patient was standing. I think it would be very difficult to feel the stomach.

CLINICAL DIAGNOSES

Linitis plastica.
Dilated esophagus.
Rupture of esophagus.
Left empyema.
Hypospadias.

DR. E. D. CHURCHILL'S DIAGNOSES

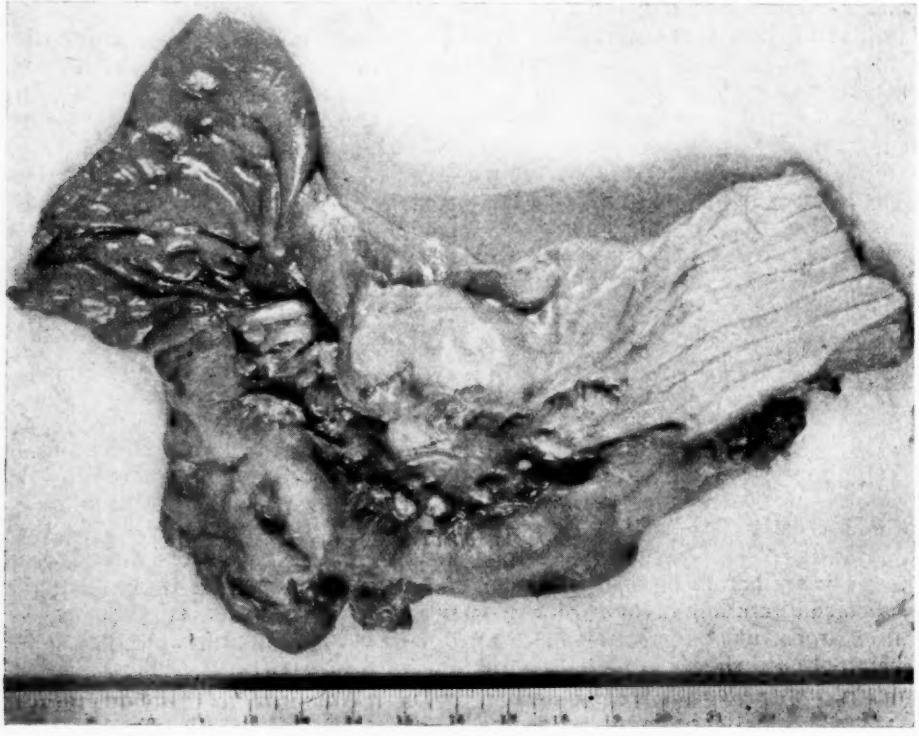
Syphilis of the stomach.
Esophageal dilatation.
? Perforation of esophagus.
Pulmonary atelectasis of the left lung.
? Pneumonia.
? Empyema.

ANATOMIC DIAGNOSES

Syphilis of the stomach, healed.
Perforated ulcer of the cardio-esophageal junction.
Subdiaphragmatic abscess with perforation into the pleural cavity.
Pyopneumothorax, left.
Pulmonary atelectasis, left.

PATHOLOGIC DISCUSSION

DR. MALLORY: At autopsy we found an entire left pleural cavity filled with a mixture of bile, gastric contents and methylene blue. The left lung was almost completely collapsed but was adherent at one point to the diaphragm. Through this little portion of the left lung which had failed to collapse, a sinus tract about a centimeter in diameter was found which went through the diaphragm into a small subdiaphragmatic abscess lying between the spleen and the stomach. At exactly the junction of the cardia with the esophagus was a small perforation leading into the abscess cavity, so that there was free communication between the pleural cavity and the lumen of the stomach.



Healed Syphilis of the Stomach.

The stomach itself was remarkable in appearance. It was barely 15 centimeters in length. The pylorus and 3 centimeters of the prepyloric zone were not abnormal, but the remainder of the organ was reduced to a thick walled tube about 5 centimeters in external character with a narrow lumen barely 2 centimeters in width. The walls consisted of thick, edematous, fibrous tissue and varied from 1 to 1.5 centimeters in thickness. The mucosa was flat and devoid of rugae but showed no ulcerations except for the single perforation at the cardiac orifice.

Microscopically the mucosa throughout the area of involvement is completely replaced by a layer of pavement epithelium essentially like that of the normal esophagus. In the pyloric antrum it is not abnormal. The muscle layers have been completely replaced by dense, acellular, rather hyaline connective tissue, in which focal collections of lymphocytes and plasma cells are numerous. There is nothing that could be recognized as specific for or even particularly characteristic of syphilis. I see no reason to hope that Levaditi stains will help us since this man's syphilis was adequately treated and presumably cured twenty years ago. Nevertheless I agree entirely with Dr. Churchill that the overwhelming probability in this case is that we are really dealing with syphilis of the stomach—or rather its end results.

Syphilis of the stomach is, of course, a disease which is often diagnosed but rarely proved. Hartwell[1] in 1925 reviewed the subject carefully and of 200 reported cases was able to pick out only 25 which he thought were acceptable. In only one of these 25 in fact, McNee's[2] case, were spirochetes demonstrated. Wharthin subsequently published an additional case and is said by Stokes to have seen several more.

The freedom of the antrum from involvement is of interest in connection with Dr. Churchill's speculation about pernicious anemia. Menlengracht has recently assayed the various portions of the stomach in an effort to determine the area where Castle's "intrinsic factor" is produced. He found that this was present in large amounts in the pyloric region and absent in the fundus. This case would seem to support his contentions.

A PHYSICIAN: How about the liver?

DR. MALLORY: It was normal.

A PHYSICIAN: Was the esophagus dilated?

DR. MALLORY: Not to any significant degree.

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TRUTH, SENTIMENT AND MEDICINE

IN this issue of the *Journal*, Dr. L. J. Henderson raises for consideration and discusses some questions to which physicians too often give little thought. He almost justifies the dictum that medicine has become too scientific, for science, in an important sense, deals with abstractions. If, therefore, the physician deals too much with abstractions, why is he not too scientific? Subtly we have changed the meaning of the term science.

Shall the physician tell the truth? Yes, if he knows it, but Dr. Henderson goes on to point out that the truth is not comprehended in a simple formula such as the example which he gives "this is a carcinoma", but that this formula is merely a nucleus surrounded by a vast penumbra of meaning from which the individual selects fragments which are the truth, from certain points of view, peculiar to himself.

It sounds a little Victorian to talk at length about sentiments, and perhaps a little unscientific. But among the Victorians there were great men and women with vision, and the scientific spirit tries to recognize and give due weight to all the pertinent facts. Perhaps vision and stature are more closely connected than we like to think and "it is in ourselves and not in our stars that we are underlings".

It is a fact that feeling plays a much more important part in our lives than we, as scientists, are willing to recognize and the sentiments aroused by a formula or other symbol determine our action according to the penumbra for the individual, and part of this may lie in the subconscious regions of the mind. Thus a symbol may cause quite different reactions on the part of two individuals. The propagandist is perfectly at home here.

There is an Art of Feeling, discussed by Wyatt[1] which physicians also should cultivate, for it is directed toward enabling us to feel appropriately to a given situation, and thus to make the most of our feelings and to act in accordance with the demands of that situation.

The truth is not limited by any such abstraction as a group of words or other symbols. It includes the abstraction and the concretion, the concrete situation, inevitably tinged with sentiment. It is only as the physician recognizes the inevitability of the sentiments, their nature and their importance that he can treat his patients wisely.

REFERENCE

1. The Art of Feeling—H. G. Wyatt—Houghton Mifflin.

THE CLINICAL DIAGNOSIS OF GONORRHEA IN THE ADULT FEMALE

THE Neisserian Medical Society of Massachusetts presents the third of a series of articles on "The Management of Gonorrhea" in this issue of the *Journal*. These papers are as unique as the Society itself, which was the first medical society ever known to have organized (in 1930) for the sole purpose of studying gonorrhea. Its work has attracted such attention that the American Neisserian Medical Society was organized in June of last year, at Cleveland, with over a hundred charter members from twenty-four states.

The organization of these two bodies is significant of a determination on the part of well-trained, ethical physicians, to dignify and to raise to a higher level the management of a disease which has been left, too long, to the ministrations of the quack, the doctor of questionable ethics, and the druggist.

The Massachusetts Society's papers are unique in that they are the work of the Society and are published in its name. They reflect the combined experience of its members rather than the opinion of a single observer. They are designed to help the general practitioner in his management of gonorrhea. They aim to emphasize that

which is known to be sound and to expose the unsound even though it may have the support of tradition.

The Society is a working body. Its meetings are devoted to discussions and study out of which come the papers which it publishes. Such funds as it can collect go into the preparation and publication of its work. It has regularly spent every nickel in its treasury trying to put a copy of each paper into the hands of every practitioner in Massachusetts. It mailed copies of its "Laboratory in the Diagnosis of Gonorrhea" to every judge and district attorney in the State in order that some of the legal interpretations of laboratory reports might be given the consideration they deserve.

The Society hopes to earn the right to be looked to as an authority on the management of gonorrhea, not only by the medical profession but by the public in its search for information concerning this disease. In this aspiration it acknowledges the duty of the specialist to give to the whole medical profession and to people the benefit of his larger experience in his field. The Society seeks not only to enlighten its own members through constant study, but to pass on what it finds to be good.

THE ANNUAL REPORT OF THE STATE DEPARTMENT OF PUBLIC HEALTH

On page 830 appear excerpts from the annual report of the Massachusetts State Department of Public Health for the year ending November 30, 1934. This part of the report is an important contribution to public health activities. Physicians should read this recital which in many particulars presents the recent views of authorities in the subjects discussed.

Probably many physicians do not read the reports of this Department, but each doctor should recognize his responsibility in coöperating with the authorities. In this article one may learn of the resources of preventive medicine as accepted by the authorities.

Theoretically each doctor is a part of the public health policy of the state, and he becomes so in fact in the utilization of the information disseminated by the Department from time to time.

The Massachusetts Medical Society

MOTION PICTURES AT THE JUNE MEETING

As an added attraction at the annual meetings of the Massachusetts Medical Society in June, a program of motion pictures has been planned to run continuously from nine to twelve o'clock on Monday morning.

Representative films of general medical and surgical interest have been obtained from various parts of the country, including such titles as: *Mechanism of Heart Beat and Electrocardiography, Pernicious Anemia, Emergency Care for Safe Transportation in Fractures of Long Bones, Acute Appendicitis, Growth of Human Tumors in Vitro, Development of Fertilized Rabbit's Ovum, Intra-cranial Hemorrhage,* and *Boston Lying-In Hospital Technique.*

The Georgian Room at the Hotel Statler has been reserved for this feature where ample room will be available for all who wish instruction, entertainment, and relaxation.

OUR DUTY IN RELATION TO LEGISLATION

House bill 756 was introduced into the Massachusetts legislature this year with just one purpose in mind—to raise the level of training of those who take the examinations to qualify for the practice of medicine in this State. There have been the usual attempts to befog the issue by claims of unfair tactics said to be directed against certain special groups and even certain schools. During a special hearing on the bill an amendment was proposed by a member of the committee of the legislature by which Massachusetts schools would be exempt from the provisions of the bill. Since that time there has been a great deal of activity through newspapers and by letters to legislators by the osteopathic group. This really constitutes an admission that their schools are so inferior as not to be able to obtain recognition by the Board of Registration.

Let us clear the atmosphere by informing the legislators of our support of the real ideas of better medicine for the public, which is the reason for asking the General Court to give its Board of Registration some discretionary power over candidates for licensure as is done in all other states.

House bill 756 should receive your active support and the support of your friends. Your legislators would like to be informed by having some expression of your opinion.

THIS WEEK'S ISSUE

Contains articles by the following named authors:

Eades, M. Fletcher. A.B., M.D. Harvard University Medical School 1922. F.A.C.S. Assistant in Obstetrics, Harvard Medical School. Obstetrician to Outpatients, Boston Lying-In Hospital. Assistant Obstetrician, Massachusetts General Hospital. Gynecologist and Assistant Obstetrician, Newton Hospital, Newton, Massachusetts. His subject is "Massive Collapse of the Lung Following Childbirth." Page 813. Address: 19 Bay State Road, Boston, Massachusetts.

SIDEL, NATHAN. M.D. Harvard University Medical School 1923. Assistant Professor of Medicine, Tufts College Medical School. Associate in Medicine, Beth Israel Hospital, and Junior Visiting Physician, Boston City Hospital. Address: 483 Beacon Street, Boston, Massachusetts. Associated with him is

SEGAL, MAURICE S. B.S., M.D. Tufts College Medical School 1932. Teaching Assistant, Department of Physiology, Tufts College Medical School, 1932-1933. Resident Physician, First and Third Medical Services, Boston City Hospital, 1935-1936. Address: Boston City Hospital, Boston, Massachusetts. Their subject is "Undulant Fever: Two Cases Simulating Subacute Bacterial Endocarditis and Pulmonary Tuberculosis." Page 816.

HENDERSON, L. J. A.B., ScD., M.D. Harvard University Medical School 1902. Abbott and James Lawrence Professor of Chemistry, Harvard University. His subject is "Physician and Patient as a Social System." Page 819. Address: Morgan Hall, Fatigue Laboratory, Soldiers Field, Boston, Massachusetts.

CHADWICK, HENRY D. M.D. Harvard University Medical School 1895. Formerly, Superintendent of the Westfield State Sanatorium and Tuberculosis Controller in Detroit, Michigan. Now, Massachusetts Commissioner of Public Health. His subject is "Digest of the Twentieth Annual Report of the Massachusetts Department of Public Health." Page 830. Address: State House, Boston, Massachusetts.

The Massachusetts Medical Society

SECTION OF OBSTETRICS AND GYNECOLOGY*

THOMAS ALMY, M.D., *Chairman*, 140 Rock Street, Fall River, Mass.

C. J. KICKHAM, M.D., *Secretary*, 524 Commonwealth Avenue, Boston, Mass.

A REVIEW OF THE DIAGNOSIS AND TREATMENT OF GONORRHEA IN WOMEN

Understanding of the significance of a gonorrheal infection in women has undergone considerable change in the last few years. Previously it was limited to the fact of infecting organisms in the discharge from the urethra and cervix, with most of the consideration given to a search for a "treatment" which would successfully eradicate these organisms. Because such treatments were not very successful in many cases the idea was not infrequently held that the infection in women was almost incurable. On the other hand, various manifestations of pelvic inflammation, especially as encountered by the surgeon, were usually treated as entities in themselves, removal of affected organs the procedure, and with scant attention paid to the etiological background.

It has been developed, comparatively recently, that there are several important aspects of this subject which demand consideration, if the disease is to be successfully managed.

First consideration: The invasion of the urethra and cervix by the infecting organisms, represents but the beginning of an inflammatory process which in the large majority of cases involves the pelvis generally. This involvement varies greatly in different individuals with its severity depending very largely on the persistence or duration of the primary infection.

Second consideration: The clinical course of the disease is divided into three stages. The first stage, or stage of invasion, is characterized by the acute inflammation in the urethra and cervix. Its duration is usually six or eight weeks and during this time the infecting organisms are usually easily demonstrable.

The second stage or stage of pelvic invasion: This begins in about six or eight weeks. A marked variation in the severity of its manifestations is observed. The mildest form is that in which the symptoms are limited to one or two excessive menstrual periods, especially periods which occur a week or ten days in advance of the expected time. The more severe cases are characterized by temperature elevation, and the usual symptoms of salpingitis, ovaritis, pelvic peritonitis, etc., with or without demonstrable pus formation. Morbidity, in all cases, sufficient to require bed treatment, occurs in about ten per cent of the cases. The number requiring operative treatment will vary greatly, depending on the habits of thought of the physician in attendance at the time. During this stage the inflammatory reaction in the urethra and cervix has markedly receded, often to escape any but the most careful investigation. The infecting organisms are usually now demonstrated with difficulty. Miscarriages, ectopic pregnancies, appendix operations, a wide variety of pelvic and plastic surgical procedures, represent the essential complications of this second stage.

The third stage of the disease: From a pathological standpoint, this is characterized by degenerative changes in the pelvic organs, the end results of a prolonged inflammatory process. Various types of amenorrhea are encountered and these patients often present a complicated picture of ill health. Frequently the problems of many of them are being considered only by the neurologist.

Third consideration: Most important, from the standpoint of the "cure" of the infection, is that the eradication of the infecting organisms depends absolutely on elimination of the

*A series of short selected articles by members of the Section will be published weekly.
Comments and questions by subscribers are solicited and will be discussed by members of the Section.

possibility of "reinfection". It is not primarily dependent on the efficacy of some special gonococcide. The futility of attempting to "cure" the infection, that is to secure repeated negative smears, in a woman who is continuing sex relations with an infected partner would seem too obvious to require comment. It is, however, usually an important factor in those cases in which difficulty is encountered, in eradicating the organisms. It is undoubtedly true, in many cases, that "reinfection" eliminated, the infection tends to self-limitation.

Fourth consideration: If in these cases the diagnostic acumen of the physician is limited to "taking smears" he will incorrectly appraise the significance of much morbidity encountered in gynecology. Some of these patients seek advice because of the discharge (rarely dysuria) of the first stage, or because of anxiety and exposure. The inflammatory reaction in the urethra at this time is very characteristic. It should be mistaken for no other condition. The fact that the first smear is negative in half of the early cases should not mislead the physician.

The majority of these patients however first come to medical attention in the second stage of the disease. They then most commonly seek advice because of irregular flow (menorrhagia, metrorrhagia) or an acute attack of low abdominal pain. By this time the acute inflammation in the urethra has subsided. That in the cervix is easily attributed to other factors. The irregular flow was formerly often assumed to result from anatomical variations in the pelvis, retrodisplacements especially; in present-day style, to endocrine dysfunction. The discovery of a mass in the pelvis raises the surgical implications of a "tumor".

In arriving at a diagnosis, the history is of first importance. The significance of frequent menstrual periods, especially in early married life, should be considered carefully. An "acute appendix" accompanied by an early menstrual period should be viewed with suspicion.

In all cases presenting gynecological morbidity, the urethra (meatus) should be examined carefully. It will frequently suggest a clue to the underlying factor in the morbidity described. The acute infections are, of course, self-evident. The urethra once the site of a gonorrheal inflammation retains permanent evidences of that fact. In elderly patients the senile changes encountered sometimes resemble the effects of a previous gonorrheal inflammation. Prolonged massage of the lower urethra will often express pus from the urethral glands, which even if not disclosing the gonococcus, is in the majority of cases, diagnostically significant. Because in the late cases positive smears are difficult to obtain, the diagnosis must depend on the history and a demonstration of the characteristic changes in the urethra, with the pelvic findings corroborative only in as far as they reveal evidences of active inflammation or its results.

Treatment is divided into measures designed to eradicate the infection on the one hand, and those having to do with the management of the pelvic inflammation on the other. The efficiency of any gonococcide applied locally will depend largely on the continuity of its application. Intermittent office treatments reduce this efficiency to a minimum. Vaginal suppositories seem to offer the most practical means at our disposal to secure continuity of treatment. A boroglycerid suppository containing a half grain of methylene-blue has been found efficient, as has a two or four per cent mercurochrome suppository. The latter requires a special formula owing to its unstable chemical characteristics. At bedtime each night the patient takes a cleansing borax douche, followed by a hot sitz bath, also containing borax. This latter, in the interest of cleanliness, lessens the occurrence of condylomata acuminata and non-specific ulcerations. Following the sitz bath the patient inserts the suppository and assumes the knee chest position for ten minutes. This latter assures the medication in contact with the cervix. The patient reports once or twice weekly for smears and observation and at the same time topical applications to the urethra and cervix may be done.

Symptoms indicative of the onset of the second stage, excessive or frequent menstrual periods, are ignored in the absence of temperature elevation. The latter developing with or without pain, the patient is kept in bed, with long douches and ice-bags, and the avoidance of excessive catharsis. The average duration of these attacks is three or four days, but there will be encountered those in which pain and temperature persist and which may or may not be accompanied by demonstrable masses in the pelvis.

If temperature and pain persist for ten days, the case usually with advantage is drained by a posterior colpotomy, masses, if present, being opened. The results of drainage, in the cases in which there are no demonstrable masses present, are uniformly good. On the other hand, not infrequently, masses of considerable size develop in the pelvis without morbidity beyond the irregular flow described. No cases in the second stage irrespective of the inflammatory masses present, should be treated surgically (by vaginal drainage or laparotomy) in the absence of morbidity sufficient to require prolonged bed treatment. In a definite number of cases, even large inflammatory masses will entirely disappear with the passage of time. Morbidity alone should be the indication for surgery.

Abdominal surgery is with advantage generally restricted to the manifestations of the third

stage of this disease. It should then be a supravaginal hysterectomy with removal of both tubes and ovaries. If an ovary is left in this type of case, its removal at a subsequent operation is a twenty-five per cent probability.

SECOND ANNUAL POSTGRADUATE MEDICAL EXTENSION COURSE

The following sessions have been arranged by the Committee for the week beginning May 5:

Bristol South (New Bedford Section)

Friday, May 10, at 4:00 P.M., at the St. Luke's Hospital, New Bedford. Subject: Obstetrics and Gynecology (First Session). Harold E. Perry, M.D., Chairman.

Hampshire

Wednesday, May 8, at 4:15 P.M., in the Nurses' Home of the Cooley Dickinson Hospital, Northampton. Subject: Cardiovascular Disease (First Session). Robert B. Brigham, M.D., Chairman.

Norfolk (Norwood Section)

Friday, May 10, at 8:30 P.M., at the Norwood Hospital, Norwood. Subject: Cardiovascular Disease (First Session). Hugo B. C. Riemer, M.D., Chairman.

Worcester (Milford Section)

Thursday, May 9, at 8:00 P.M., at the Milford Hospital, Milford. Subject: Obstetrics and Gynecology (Third Session). Joseph I. Ashkins, M.D., Sub-Chairman.

Worcester (Worcester Section)

Wednesday, May 8. Stated Meeting—no postgraduate session.

Worcester North (Fitchburg Section)

Friday, May 10, at 4:30 P.M., at the Burbank Hospital, Fitchburg. Subject: Dermatology and Syphilis. Edward A. Adams, M.D., Chairman.

MASSACHUSETTS LEGISLATIVE NOTE

House 758. Petition of Curtis M. Hilliard for investigation by a special commission (Commissioners of Public Health and Mental Diseases and others) of public health laws and practices within the Commonwealth.

Rejected in Senate, April 23, 1935.

MISCELLANY

A TRIBUTE TO DR. ALFRED WORCESTER

On the announcement of the prospective retirement of Dr. Worcester from the position of Oliver Professor of Hygiene of Harvard University a large group of his friends assembled at the Harvard Club April 17, to extend their congratulations for the successful administration of his office in dealing with the psychologic and physical problems of the undergraduates of the University.

The details of the meeting were arranged by Dr. Reginald Fitz in association with Dr. Dwight O'Hara and Dr. Harold Gallupe. Dr. Roger I. Lee was the toastmaster who, ten years ago, had officiated in the same capacity when Dr. Worcester was the guest of a similar group.

The first response to the after-dinner exercise was by Dr. O'Hara, who retold the more significant events, and contributions to medicine which have made Dr. Worcester an important factor in professional activities in this section. As he closed his address, and after an appropriate quotation from De Senectute by Cicero, he presented the volume to Dr. Worcester as a memento of the occasion.

Dr. O'Hara was followed by addresses by Dr. Fitz and Mr. W. J. Bingham, Director of Athletics at Harvard.

In responding to the felicitations of the several speakers Dr. Worcester assured the company that he was not retiring from medical activities but on the contrary he planned to engage in an attractive field where art and science unite in the specialty of adolescence, for here, he felt, great opportunities exist for leading young people to avoid pitfalls in the way of character development. He felt inspired to teach young men especially, in addition to the principles of ethics, the essentials of chivalry in their relation to womanhood. The enthusiasm and depth of feeling exhibited by Dr. Worcester in this address portrayed his abiding interest in the problems of those who are about to take on the responsibilities of civic activities.

The occasion was so enjoyable that there was a unanimous expression of hope that yearly repetition of such meetings would follow this one.

HEREDITARY BLINDNESS

To prevent blindness from hereditary eye diseases, facilities should be made available everywhere for the sterilization of those who have such diseases, and premarital certificates regarding the freedom from hereditary diseases of the bride and groom should be required, the annual conference of the International Association for Prevention of Blindness was told in London, April 5, by Dr. A. Franeschetti of Geneva, Switzerland.

Other measures advocated by Dr. Franeschetti to reduce hereditary blindness include the special training of physicians, particularly ophthalmologists, in genetics; the education of public health officials and the general public on this subject; a decrease in consanguineous marriages; the collection of precise and complete statistics; and the increased use of social workers in this field.

Dr. Park Lewis, of Buffalo, N. Y., vice-president of the Association, presided in the absence of Professor F. de Lapersonne, of Paris, the president, who was unable to attend because of illness. Delegates attended from most of the thirty-four nations represented in the Association. Lewis H. Carris, of New

York City, managing director of the American National Society for Prevention of Blindness, represented the United States.

The chances of becoming blind are highest in the first two years of life, declared Dr. M. Van Duyse of Ghent, Belgium, in a paper on "International Classification of the Causes of Blindness." Ophthalmia neonatorum and corneal lesions are responsible for the high proportion of blindness in the early years of life, he said.

COMPARISON OF DISEASE INCIDENCE IN CONNECTICUT WITH 1934 AND SEVEN YEAR AVERAGE

MONTH ENDING MARCH 30, 1935

Diseases	1935 Week ending Mar. 9	1935 Week ending Mar. 16	1935 Week ending Mar. 23	1935 Week ending Mar. 30	Average cases reported for week corresponding to Mar. 30 for past seven years	1934 Week ending Mar. 10	1934 Week ending Mar. 17	1934 Week ending Mar. 24	1934 Week ending Mar. 31
Amebiasis	—	—	—	—	—	1	1	—	—
Cerebrospinal Men.	3	—	—	—	1	1	1	—	—
Chicken Pox	123	177	130	98	80	173	115	91	72
Conjunctivitis Inf.	—	—	3	1	2	—	—	9	9
Diphtheria	7	—	8	7	12	2	6	8	6
Encephalitis Epid.	—	—	3	—	—	1	2	—	1
German Measles	191	145	180	131	35	1	4	1	4
Influenza	2	9	4	28	19	2	15	1	1
Measles	997	878	1213	1448	293	36	38	26	34
Mumps	60	70	151	81	114	279	100	134	96
Paratyphoid Fever	—	1	—	1	—	—	—	—	—
Pneumonia (Broncho)	27	56	45	51	38	37	33	34	29
Pneumonia (Lobar)	62	41	49	59	53	39	36	34	41
Poliomyelitis	—	—	—	1	—	—	—	—	—
Scarlet Fever	70	95	121	116	116	71	92	81	65
Septic Sore Throat	3	1	1	6	3	5	2	2	3
Smallpox	—	—	—	—	1	—	—	—	—
Tetanus	1	—	—	—	—	—	—	1	—
Trichinosis	1	—	—	1	—	1	1	—	—
Tuberculosis (Pul.)	35	30	15	19	29	25	25	20	22
Tuberculosis (O. F.)	2	2	1	1	3	2	2	—	2
Typhoid Fever	—	—	—	3	—	1	—	2	—
Undulant Fever	2	—	—	—	—	1	—	—	1
Whooping Cough	97	64	45	100	75	75	57	67	54
Gonorrhea	39	19	17	38	27	22	24	39	17
Syphilis	49	33	34	42	41	48	44	48	39

Remarks: No cases of Asiatic cholera, glanders, plague or yellow fever during the past seven years.

RÉSUMÉ OF COMMUNICABLE DISEASES IN MASSACHUSETTS FOR MARCH, 1935

MONTHLY REPORT FOR MARCH, 1935

Disease	Mar., 1935	Mar., 1934	5 Yr. Average*
Anterior Poliomyelitis	1	2	2
Chicken Pox	1148	1004	1110
Diphtheria	30	63	159
Dog Bite	716	498	406
Epidemic Cerebrospinal Meningitis	9	7	10
German Measles	5118	57	240
Gonorrhea	513	487	515
Lobar Pneumonia	501	551	572
Measles	1874	9891	3935
Mumps	532	644	970
Scarlet Fever	1070	1208	1652
Syphilis	556	376	395
Tuberculosis Pulmonary	338	411	421
Tuberculosis Other Forms	40	43	45
Typhoid Fever	6	3	7
Undulant Fever	2	1	—
Whooping Cough	777	1969	1309

*Based on the figures for the preceding five years.

RARE DISEASES

Anterior poliomyelitis was reported from Worcester, 1.

Amebic dysentery was reported from Worcester, 2.

Bacillary dysentery was reported from Boston, 2; Worcester, 2; total, 4.

Encephalitis lethargica was reported from Lynn, 1; Springfield, 1; total, 2.

Epidemic cerebrospinal meningitis was reported from Boston, 2; Duxbury, 1; Franklin, 1; Saugus, 1; Shrewsbury, 1; Taunton, 1; Uxbridge, 1; Worcester, 1; total, 9.

Hookworm was reported from Foxboro, 1.

Paratyphoid fever was reported from Everett, 1.

Pellagra was reported from Chelsea, 1.

Rabies was reported from Cambridge, 1.

Septic sore throat was reported from Amherst, 2; Andover, 1; Boston, 1; Colrain, 1; Danvers, 2; Gardner, 1; Goshen, 1; Greenfield, 2; Lynn, 1; Malden, 1; Marlboro, 1; New Bedford, 1; Northfield, 5; Quincy, 1; Russell, 2; Shirley, 1; Stoneham, 1; Waltham, 12; Weston, 1; total, 38.

Trachoma was reported from Brockton, 1; Haverhill, 1; Westwood, 1; total, 3.

Trichinosis was reported from Boston, 3; New Bedford, 1; total, 4.

Undulant fever was reported from Andover, 1; Somerville, 1; total, 2.

Diphtheria morbidity maintained its progressive decline which began in 1924 after the introduction of immunization in 1923.

Typhoid fever to date shows a slight decrease over the corresponding period for 1934.

Epidemic cerebrospinal meningitis, while not remarkable in this State, shows an increase for New York, Ohio, Missouri and the District of Columbia.

German measles is epidemic with the greatest number of cases ever reported for March.

Measles, although below the five year average, is epidemic in Springfield, New Bedford, Boston, Hingham and Cohasset.

Pulmonary tuberculosis, scarlet fever, whooping cough and mumps were reported well below the five year average.

The incidence of dog bites continues high with evidence of a focus in the vicinity of Lowell.

Lobar pneumonia, chicken pox, anterior poliomyelitis and tuberculosis other forms are not remarkable.

DINNER TO DR. JOHN LOVETT MORSE

A dinner at the Brookline Country Club was given on April 22 by his former house officers and pupils to Dr. John Lovett Morse, professor emeritus of Pediatrics in the Harvard Medical School, on the occasion of his seventieth birthday. A charcoal portrait of Dr. Morse, by Mr. Dwight Shepler, was presented to him.

Dr. Richard M. Smith was toastmaster. Others present at the dinner were Lovett Morse (Dr. Morse's son), W. B. Adams, J. M. Baty, E. W. Barron, K. D. Blackfan, M. T. Briggs, G. D. Cutler, P. W. Emerson, R. S. Eustis, T. Foster, E. Friedman, J. L. Gamble, J. I. Grover, H. Green, D. M. Hassmann, L. W. Hill, W. W. Howell, E. Hubbard, M. Ladd, W. E. Ladd, A. T. Legg, K. D. Percy, D. W. Porter, W. R. Sisson, P. H. Sylvester, F. B. Talbot, B. Crothers, A. A. Hornor, A. R. Cunningham, J. H. Young, S. B. Wolbach, E. H. Place.

ANNOUNCEMENT OF THE FOURTH ANNUAL SALMON MEMORIAL AWARD FOR 1936 BY DR. C. CHARLES BURLINGAME

It gives me a great deal of pleasure tonight* in my capacity of Chairman of the Salmon Committee on Psychiatry and Mental Hygiene to announce that the Committee has selected the recipient of the Fourth Salmon Award for 1936, and in making this announcement, to reiterate the principles on which this Award is based.

It is made, as you know, to perpetuate the memory of our friend and colleague, Dr. Thomas W. Salmon, and the recipient is selected by the Committee solely on the basis of professional achievement in the field of psychiatry and mental hygiene.

Needless to say, the Committee feels a keen responsibility in making this selection each year, a responsibility which is magnified by the personal wish of each member to keep the Award on a level of distinction worthy of Doctor Salmon, for whom the Award is named. We believe the man selected for the coming year is worthy of the three who have received the Award.

The Salmon Committee on Psychiatry and Mental Hygiene has selected for the 1936 Salmon Memorial Award, Dr. Samuel T. Orton, of New York, former President of the American Psychiatric Association and the Association for Research in Nervous and Mental Diseases.

Doctor Orton has practiced his profession for thirty years and has specialized in psychiatry and neuropathology, with special attention to reading and writing difficulties, stuttering and other speech disorders. As a result of his researches along this line, methods of teaching these subjects have been drastically altered in the past fifteen years. His special studies of "left-handedness" as a factor in various nervous disorders are generally accepted and applied by pedagogues to-day.

He has published numerous scientific papers on various medical subjects but more recently has concentrated his attention on a study of the causative factors in writing and language disabilities.

Doctor Orton is Professor of Neurology and Neuropathology at the College of Physicians and Surgeons, Columbia University, and Neuropathologist at the New York Neurological Institute. He was formerly Professor of Psychiatry and Director of the psychopathic hospital of the State University at Iowa. He served as Clinical Director of the department of nervous and mental diseases of Penn-

*April 27, 1935.

sylvania Hospital. He has held appointments at the Columbus (O.) State Hospital, Saint Ann Hospital, Anaconda, Mont., and at Worcester (Mass.) State Hospital. He has served as a teacher at Harvard Medical School, Clark University, Worcester, Mass. He is a member of many scientific societies and was a member of the editorial board of the *Archives of Neurology and Psychiatry* for more than ten years.

May I say in conclusion that it gives me a good deal of personal pleasure to make this announcement and to say that as the recipient of this Award, Doctor Orton will next year deliver the Salmon Memorial Lectures.

DR. REGINALD M. ATWATER APPOINTED EXECUTIVE SECRETARY

Reginald M. Atwater, M.D., Dr.P.H., has been appointed Executive Secretary of the American Public Health Association. Dr. Atwater for the past eight years has been Commissioner of Health in Cattaraugus County, N. Y., which was the first of the counties in New York State to organize on a full-time county unit basis for health.

Dr. Atwater, who is a native of Colorado, is a graduate of Colorado College and of the Harvard Medical School where he received his M.D. degree in 1918. He became a Rockefeller Foundation Fellow in Public Health and was granted the degree of Dr.P.H. by Johns Hopkins in 1921. Going to the Orient, Dr. Atwater became Associate Professor of Hygiene in the Hunan-Yale College of Medicine in Changsha, China, from which post he returned to the United States in 1925 to teach in the Harvard School of Public Health.

Since 1927 Dr. Atwater has occupied his present position in Cattaraugus County where he has been in charge during the period of transition from the health demonstration to the official department of health. During his administration several active research projects have been carried out in Cattaraugus County through the coöperation of the Milbank Memorial Fund, the U. S. Public Health Service, and other agencies. Studies of tuberculosis prevention and control, studies of rural water supplies, of rural health administration, and of general morbidity have been published from the Department.

The new Executive Secretary is a member of his county and the New York State Medical Societies, a Fellow of the American Medical Association, and a Fellow of the A.P.H.A. He is the author of several studies in epidemiology published in professional journals and he comes to the Association with a background of full academic training and practical experience in public health.

The American Public Health Association is the technical society of the professional public health workers of North America. Its Sixty-Fourth Annual Meeting will be held in Milwaukee, October 7-10.

CALIFORNIA ENDORSES COMPULSORY "HEALTH INSURANCE"

The California Medical Association is the first important medical group in this country—and probably the first in the world—to offer full aid and coöperation in establishing a compulsory health-insurance system, according to Mary Ross, staff expert on medical economics, writing in the May issue of *Survey Graphic Magazine* (New York). "Whatever this spring's legislative action at Sacramento, the stand of the doctors marks economic and social tides which cannot long be held back," says Miss Ross.

Aside from the fact that California had a few years ago more physicians in proportion to population than any known area in the world, thus giving rise to competition among them, Miss Ross believes that the state's eighty years of experience with various forms of organized medical service have helped to point the issue. In this connection she cites the service maintained by the Southern Pacific Railroad Company for its employees, at a set rate paid monthly by each worker.

CERTAIN COMMENTS ON A COMMUNICATION RECEIVED FROM THE COMMITTEE ON PUBLIC HEALTH OF THE MASSACHUSETTS MEDICAL SOCIETY, ENTITLED "HAZARDS OF PUBLICITY"

BY IAGO GALDSTON, M.D.*

The Committee on Public Health of the Massachusetts Medical Society avows its recent communication, "The Hazards of Publicity" to be discutient only. My dictionary defines discutient as "serving to disperse morbid matter". I am loathe to believe that so honorable a body would commit a reprehensible act. Hence I interpret your meaning as discussional. And in this interpretation I presume to write you.

Perhaps you are aware that I have for years been interested in the subject of public health education, or in medical publicity, as you to my chagrin prefer to call it. The reprints which I am sending you will, I trust, bear witness to my having given some study, and may I add, thought, to this matter. Hence I may claim warrant for my partaking in this discussion, and may even command some earnest consideration of my propositions.

With the main hypothesis of your Committee's communication, nor I, nor anyone can find fault. Truly there are hazards in publicity. Since you offer no conclusions, save by indirection, one cannot tilt thereat. But, in the body of your communication there are a number of assertions, expressed opinions, and singular illustrations which deserve close scrutiny and evaluation. "The gesture, you know, may say more than the phrase."

To begin with, your communication has the title of "The Hazards of Publicity", but in your very first sentence you modify your thesis, substituting

*Executive Secretary, Medical Information Bureau of the New York Academy of Medicine.

therefor "public advertising". I know of no responsible individual or group of professional men who have urged the abandonment of that ancient and accepted ethical principle which forbids the individual physician to advertise himself to the public. I know of many who have favored, to use your expression, controlled publicity, to do away with personal advertising. I know of instances where their efforts were fruitful.

Then, I suppose by a sort of local pride, you credit Mrs. Eddy with having invented what you term corporation publicity. There is no historical warrant for this claim, and even if it could be established, it would not be pertinent. For again referring to your thesis, the concern is with "the hazards of publicity" and not with "corporate publicity", whatever this may mean.

Passing over a great deal of acutely discursive material on types of publicity, we come to "our own professional publicity men", whom you characterize as "honestly striving to carry the good word", but "fail to appreciate the complexity of what we know and the difficulties which surround our daily doings".

One is tempted to challenge the last qualification, for no one is in a better position to appreciate "complexity" than he who seeks to make it intelligible to the common mortal. But this is a tempting divergence which we must resist. More serious is the charge that follows, for it ascribes a defect "for which there is no word in the English language (may the writer suggest—tautology—prolixity—redundancy) and which publicity men share with professors, lecturers and teachers". This characteristic apparently consists in repetition, or restatement, for, by contrast Edward Jenner is singled out and it is affirmed that "the most remarkable thing about his greatness" is "that he said once and for all practically everything that ever needs to be said about the prevention of smallpox". Immunologically, this is too sweeping and naïve a statement to be challenged for earnest ends. But its intended point deserves consideration. Jenner said his say and thereafter said no more! Well, then, what of it? He had nothing more to say and so he kept quiet. But what effect would his words have had were it not for the hundreds and thousands of enlightened professors, teachers and publicity men who took it upon themselves to "carry the good word"?

We have an instance in point in the case of Ignaz Philipp Semmelweis. Semmelweis demonstrated the contagiousness of puerperal fever. He said his say and repeated it many a time, and yet because he was without the help of "professors, teachers and publicity men", his words and his convictions did not prevail. Another scientist and a first-class publicist in the best sense of the word wrote an essay on the contagiousness of puerperal fever. This was delivered before the Boston Society for Medical Improvement and at the request of the Society was printed in the *New England Quarterly Journal of Medicine and Surgery* for April, 1843. The history of the bitter controversy that raged about the issue is public record. In this connection it may be noted that Oliver Wendell Holmes, who certainly cannot be charged with disregard for the best traditions of the medical profession, was not above writing on the advances of medicine and delivering talks concerning "the human body and its management" through the medium of a popular monthly. Indeed, among the publicists of the medical and scientific realms may be found the names of the most illustrious.

There is in this issue a larger and more deeply rooted difference between men and their viewpoints than appears implied in the exposition on the hazards of publicity which has provoked this communication, and the issue reaches as far back as human history. Socrates was a publicist who went about the agora of Athens and sought in his own fashion to educate hoi polloi. Plato, his illustrious pupil, abandoned the agora and created the Academy. Socrates had faith in the common man. Plato trusted only the philosophers. Socrates would talk with any man. Plato would not publish his works because the common man could not understand and might misunderstand. This opposition of the viewpoints of men is seen again in the struggle of the Reformation. The translated Bible is called the Vulgate. The true pioneers of publicity were the great intellects of the Renaissance, the poets, the philosophers, the expositors, the people who created the vernacular languages of Italy and France, and who wrote learned works in English. Dante, Boccaccio, Rabelais, Montaigne, Francis Bacon—all of these were publicists. The movement for "publicizing" the cultural heritage of the human race attained its greatest intensity during the period of the great French humanists and encyclopedists. Voltaire was an intensive partisan in this movement. Diderot and d'Alembert are the two outstanding names. England had its counterpart of this movement, and the greatest of her scientists were not above giving popular lectures within the very halls of its most noble and ancient institutions. Sir Humphry Davy, Darwin, Tyndall, Spencer, Huxley are a few of those great Englishmen who believed in popularizing knowledge. To this very day the tradition of the best publicists is maintained among the English scientists. Sir Richard Gregor, Bart., F.R.S., Editor of *Nature*, recently delivered an illuminating exposition of one phase of this matter in an address entitled "Science and the Public Press".

Unfortunately, not all popularizers are of the stamp of Huxley, nor of the calibre of Tyndall, et al. By a sort of mimicry hard for the untutored to recognize, a host of baneful writers have commanded the interest of the reading public, posing as popularizers, when indeed they are nothing more than crass vulgarizers. The distinction is not hard to appreciate. The popularizer brings out the innate interest of his subject so that his audience can the better and more readily appreciate it. He is a commentator, an elucidator. The vulgarizer, like a bad

cook who uses a foreign sauce to impose flavor upon his mess, so distorts, so corrupts, that interest is gained not because of the subject proper but by virtue of the bizarre presentation.

What then? The problem must be understood and dealt with in a pragmatic fashion. Certain it is that our economic and social world has changed much since the beginning of the century. There is an immense reading public with an avid curiosity about all things, medicine included. There is a highly organized industry, journalism, which serves this public curiosity and which thrives on opposition. We of the medical profession cannot cut ourselves loose from society to drift in our own little row boats. Even though we entertain a sentimental reverence for the "older accepted" ethics of medicine, which, by the way, are mainly wish fulfillment concepts, we must perforce face the current problems and meet them effectively. We meet them effectively when we coöperate with the press, when we aid the Fourth Estate in every legitimate fashion possible. True, some of the press's preoccupation with "upside down stomachs", cornea transplants, etc., taxes our patience. But then, we must be philosophers. In time we are bound to gain, and so, too, will the public. Indeed, scrutiny of the press by a sympathetic eye will reveal that not infrequently the editorial page, feature articles, and not seldom the news columns, too, offer the reader sound advice, and excellent information on personal health and communal welfare.

Yes, there are hazards in publicity, but there are also many gains for the courageous and the skilled who know, or are willing to learn how to utilize it for the greater glory of medicine and the greater good of our people.

CORRESPONDENCE

OFFICIAL ACTIONS OF THE BOARD OF REGISTRATION IN MEDICINE

State House, Boston,
April 20, 1935.

Editor, *New England Journal of Medicine*,

This is to inform you that on April 11, 1935 the Board of Registration in Medicine voted to reregister as a physician in this Commonwealth Dr. James P. A. Nolan, whose registration had been revoked by the Board on July 23, 1923.

Yours very truly,

STEPHEN RUSHMORE, M.D., *Secretary*.

PRONUNCIATION OF MEDICAL WORDS

April 27, 1935.

Editor, *New England Journal of Medicine*,

Dr. Haigh has a pretty good batting average. His pronunciations are backed up by the American Illustrated Medical Dictionary in every instance except *fibrillation*, *urea* and *urethane*.

I wish he had included in his list *duodenal*, *trauma*, *pulmonary*, *rugae*, *haustra*, *caput*, *apparatus*, *vena cava*, and many others which are never—well, hardly ever, correctly pronounced by even the best doctors.

Incidentally, I believe Webster is a better authority than Dorland. Best of all as a guide, however, is some knowledge of the English pronunciation of Latin, now unhappily senescent and in desuetude.

Yours truly,

ROBERT W. BUCK, M.D.

5 Bay State Road,
Boston, Mass.

A GOOD LOCATION FOR A DOCTOR

Editor, *New England Journal of Medicine*,

There is an excellent opportunity for a young physician to locate and establish practice in a fine, old town on the Daniel Webster Highway about ten miles from Concord, N. H.

This town has a population of about 1,400, comprising village and rural communities. It has several Auto Inns, and *Plenty* of auto accidents. It means much if a doctor can be summoned quickly rather than to wait for medical aid or ambulance from the city.

Three or four adjoining townships have no resident physician. All of these are easily accessible over State Aid roads or Trunk Lines which are kept open, and in splendid condition, throughout the entire winter. Electricity and telephone are serviced into all these communities.

A fine, old homestead with modern conveniences, centrally located, may be procured—if desired—and the arrangement of the rooms makes it suitable for a home and offices.

For further particulars, address

L. M. DADMUN.

43 Salisbury Street,
Manchester, N. H.

RECENT DEATHS

HALL — GARDNER WELLS HALL, M.D., aged fifty-nine, of 396 Marlborough Street, Boston, Massachusetts, died at his home, April 21, 1935, after a long illness. Dr. Hall was born in Boston, the son of Charles Wells Hall and Lily Montague Hall. His premedical education was acquired at the Cutler School, Newton, and Harvard College. His A.B. degree was conferred in 1897. He graduated from the Johns Hopkins School of Medicine in 1901.

He joined the Massachusetts Medical Society in 1911, was a Fellow of the American Medical Association and a member of the Boston Medical Library and the Harvard Club of Boston.

A widow, Mrs. Elizabeth Hancock (Page) Hall, and two daughters, Mrs. Horace Partridge and Rosamond Wells Hall, survive him.

KNIGHT — CHARLES LEWIS KNIGHT, M.D., of 64 Stratford Street, West Roxbury, and with an office at 544 Columbus Avenue, Boston, died suddenly in his office, April 18, 1935. He was born at Deer Isle, Maine, in 1874. His premedical education was ac-

quired in the local schools and at the Bucksport, Maine, Seminary and he graduated from the Harvard Medical School in 1901. He was visiting physician to the Forest Hills Hospital.

He joined the Massachusetts Medical Society in 1902, and was also a Fellow of the American Medical Association. He was active in the South End Medical Center, and was a member of the Norfolk District Medical Society and the West Roxbury Medical Association.

He is survived by his widow, Mrs. Ellen Knight, and two sons, Dr. John E. Knight, an interne in the Boston City Hospital, and Charles L. Knight, Jr., a student at Harvard College.

OBITUARIES

FIELDING H. GARRISON, M.D.

With Dr. Garrison, who died in Baltimore, Md., April 19, 1935, American medicine loses one of its brightest ornaments. As editor of the Medical Catalogue of the Library of the Surgeon General's Office he rendered medical science invaluable services. His writings in the field of medical history are of the highest order and will have permanent value.

Fielding Hudson Garrison was born in Washington, D. C., November 5, 1870. After graduating from Central High School of his native city he attended Johns Hopkins University in Baltimore where he studied ancient and modern languages and higher mathematics. After graduating as Artium Baccalaureus, he returned to Washington and began the study of medicine at the University of Georgetown from which he graduated in 1893. Even during his studies Col. John S. Billings who, a few years before, had founded the Library of the Surgeon General's Office, and who recognized the ability and knowledge of the young student, induced him to enter the Library as Assistant Librarian. For several years the three men, Billings, Fletcher and Garrison worked together on the first series of the great medical catalogue. When Billings retired in 1895 Dr. R. Fletcher and Dr. Garrison continued the work. At the same time they, together, published the Index Medicus, a monthly publication giving the latest medical literature of the world arranged by subjects. When Dr. Fletcher died in 1911 Dr. Garrison became Principal Assistant Librarian and under his direction the whole second series of the catalogue was published.

Dr. Garrison was a captain in the Medical Reserve Corps. When the United States entered the war in 1917, he was called to active duty. As Lieutenant Colonel he was sent to the Philippines where he served for several years. When he was recalled in 1922 he did office work in the Surgeon General's Office at Washington until his retirement from the army in 1930. In the same year he was appointed custodian of the W. H. Welch Library of the medical department of Johns Hopkins University at Baltimore.

Garrison possessed an extensive general education. He was well versed in the principal modern languages. He was a tireless reader and was familiar with the literature of the leading countries of Europe.

He was a brilliant and prolific writer. Besides numerous smaller articles on various medico-historical subjects he wrote a number of works of outstanding value. Among them should be mentioned: "Josiah Willard Gibbs and His Relation to Modern Science" (1909) and "Physiology and the Second Law of Thermodynamics" (1909). In these two large monographs Garrison demonstrated the great value of the work of Gibbs, the greatest mathematical physicist of this country, for modern science.

In 1915 he published "John Shaw Billings, a Memoir", in which he pointed out the great services which Billings, the founder of the Library of the Surgeon General's Office, rendered to medical science.

He wrote, furthermore, "History of Military Medicine" (1922), "History of Endocrine Doctrine" (1922) and "History of Pediatrics" (1923).

But his chief work is his "Introduction to the History of Medicine". This work is much more than its modest title would indicate, for it is a real and complete history of medicine. What gives the work such a high value is the careful and exact presentation of the great advances and discoveries in medical science during the last hundred years. In this respect it is the most complete and most reliable work that has so far appeared in the English language. The book was first published in 1913 and since then several new editions have appeared.

By his History of Medicine and his other valuable writings Dr. Garrison has secured for himself a prominent and permanent place in the field of medical historiography.

A. ALLEMANN, M.D.
3810-13th Street, N. W.,
Washington, D. C.

RESOLUTIONS ADOPTED BY THE SENIOR STAFF OF THE BOSTON CITY HOSPITAL IN APPRECIATION OF THOMAS JAMES O'BRIEN, M.D.

The Senior Staff of the Boston City Hospital wishes to record its great sense of loss in the passing of Dr. Thomas James O'Brien. Becoming a member of the Staff in 1914, Dr. O'Brien brought to the Hospital great ability as a practitioner, an unsurpassed knowledge in the use of drugs, as well as an unusual command of parliamentary procedure and marked success as a speaker. During the doctor's later years of active service, his expert advice was of great assistance in the Administrative Board of the Staff.

His lovable personality made for him many friends among all sorts of people; they will remember him best for his modesty, his kindliness, his loyalty and his thorough-going honesty; those who saw him during the last weeks of his illness can never forget his unfailing courage.

In the death of Dr. O'Brien the Hospital has lost one of its most faithful supporters and those of us who loved him lose in his passing one of the truest of friends.

P. F. BUTLER, M.D., *Secretary*,
Senior Staff, Boston City Hospital.

April 18, 1935.

NOTICES

WORCESTER NORTH CANCER CLINIC

ESTABLISHED 1927

Fitchburg, Mass.,
May 9, 1935.

To the Physicians of Worcester North District Medical Society:

A Special Cancer Consultation Clinic will be held at the Burbank Hospital, Fitchburg, May 15, from 8:30 A.M. to 12:30 P.M., with Dr. Joe Vincent Meigs, Surgeon to Collis P. Huntington, and Pondville Hospitals, as consultant. *Clinic of May 14 cancelled.*

You are invited to accompany any of your patients whom you desire shall have this service, or to send them with a note, and a report will be returned to you. This service is gratis.

Committee of the Worcester
North District Medical Society,
WALTER F. SAWYER, M.D.,
GEORGE MOSSMAN, M.D.,
CHARLES J. LASERTE, M.D.,
ERSKINE R. PICKWICK, M.D.,
FREDERICK H. THOMPSON, M.D.,
Chairman.

AMERICAN-CANADIAN MEDICAL GOLFERS PLAY JUNE TENTH

International golf will be played at Atlantic City on June 10 when members of the American Medical Golfing Association and golf enthusiasts of the Canadian Medical Association join forces at the Northfield Country Club.

The A. M. G. A.'s invitation to the Canadian Medical Association to hold a joint tournament this year has been accepted by Dr. T. C. Routley, General Secretary of the C. M. A., who replied: "I am sure our Canadian colleagues will appreciate highly the honor you have done them in asking them to be present at the Twenty-First Annual Tournament of the American Medical Golfing Association."

TWO ADDITIONAL EVENTS

Two additional events will be added to the day's already generous program of nine events and seventy prizes:

1. The International Event, featuring the "President's Cup," a new trophy presented by Dr. Charles Lukens of Toledo, and nine other American prizes for our Canadian friends to carry back home.

2. The Canadian Event, featuring the "Ontario Cup," or championship trophy, and the other prizes of the Canadian Medical Association.

MANY FOURSOMES OF CANADIANS AND AMERICANS

Many American golfers having medical friends in Canada are arranging matches for the international medical golf tournament of June 10. It is expected that 200 players will tee off between 6:00 A.M. and 3:00 P.M., in this 36 hole and 18 hole competition. The Atlantic City Committee has arranged that free busses will leave from Haddon Hall, from the Shelburne Hotel, and from the Ambassador Hotel at 8:30 A.M., and will return from Northfield in the evening at 10:30 P.M. Dinner at 7:00 P.M. with Dr. Frank A. Kelly of Detroit as toastmaster, will be followed by distribution of trophies and prizes by Dr. Walt P. Conaway, Chairman of the Atlantic City Golf Committee.

For entry blank, write Bill Burns, Executive Secretary, 4421 Woodward Avenue, Detroit.

REPORTS AND NOTICES OF MEETINGS

MEDICAL CLINIC AT THE PETER BENT BRIGHAM HOSPITAL

Doctor Christian gave one of his regular Thursday afternoon medical clinics at the Peter Bent Brigham Hospital on March 14. Lantern slides from Bright's original monograph on kidney disease in 1827 were shown. Bright also wrote on tumors and various other pathological conditions. Doctor Christian stressed the keenness of these kidney drawings and went over several of them in detail, giving the case history associated with each one. A microscopic section from one of Bright's original cases (1827) was demonstrated, and proved to be in an excellent state of preservation.

The first case presented by Doctor Christian was a nineteen year old boy who had developed a simple head cold with a cough, and had come to the hospital in the middle of February because of the cough. At this time his urine showed a slight trace to a trace of albumin, and rare hyaline casts with three to five red blood cells per high power field. There was no history of renal symptoms, but when he returned to the Outpatient Department on the twelfth of March the same condition existed in his urine and he was advised to enter the hospital until his kidney condition became normal. Doctor Christian stressed the importance of realizing that acute nephritis may develop without symptoms, and this must be remembered, particularly in taking histories of patients with chronic nephritis.

The second case was a seventeen year old boy who had had an attack of generalized edema at the age of three, at which time he also had albumin in his urine. After one year's treatment he had an attack of acute appendicitis, and after recovering from the operation, his urine picture was found to be normal. There was no further trouble until July 1934, when intermittent puffiness of the face and legs was noticed. At this time he felt poorly, had a poor appetite, and his abdomen began to fill up. On entry in December his blood pressure was one

hundred and twenty-two over seventy and his urine showed hyaline and granular casts with considerable albumin. Anasarca existed. A phenolsulphonphthalein test showed fifty-five per cent excretion in one hour. The plasma protein was three and six-tenths grams per cent with relatively high globulin. At one time the cholesterol had reached sixteen hundred milligrams per cent. Before entry he complained of acute abdominal pain, and Doctor Christian pointed out that his past history of appendicitis at the age of four might have been due to a local swelling of the gut, since a mistaken diagnosis of appendicitis is often made in these patients. The problem in the treatment of this case is to build up the serum proteins and to do this a high protein intake is necessary. The lowered osmotic pressure of the blood due to the loss of protein in the urine allows the filtration pressure to be greater than the osmotic pressure for a sufficient proportion of the length of the capillary to allow more fluid to go into the tissues than comes out; thus, leading to edema and ascites. In this case a fair diuresis was obtained by the use of the mercurial diuretics, and gum acacia was used to raise the osmotic pressure, but it is hard to purify this material and prevent reactions. The loss of albumin continues and at present the total protein is 2.5 grams per cent, and the cholesterol is eight hundred milligrams per cent. The high cholesterol may be an attempt of the body to keep the excess fluid out of the tissues.

The third case was a fifty-nine year old male who in 1922 entered for duodenal ulcer, and has returned frequently for the treatment of this condition. At the present time he entered because of his ulcer, dyspnea, and poor renal function. In 1922 his blood pressure was one hundred and seventy-five over ninety and now it is two hundred and ten over ninety, and his heart is slightly enlarged. The blood urea nitrogen is fifty-three milligrams per cent. Doctor Christian pointed out the difficulty of treating ulcer patients with kidney damage, because they are not able to take care of the excess base, and develop alkalosis. This patient had a carbon dioxide combining power of eighty-seven volumes per cent on entry.

The fourth patient also had been treated for some time for an ulcer and since 1930 had shown albumin and red cells in his urine, and his blood pressure has slowly risen to one hundred and seventy-five over one hundred and ten at present. He also had an alkalosis with a carbon dioxide combining power of seventy-five volumes per cent.

The last case had a renal disturbance in 1927 in conjunction with pregnancy. On entry she had considerable nitrogen retention, but only a slight reduction in her red blood count. She entered with headache and dimness of vision. Gradually the blood urea nitrogen has increased from normal at entry to one hundred and twelve at present, and she demonstrated at the time of presentation a fibrinous pericarditis.

Doctor Christian classified nephritis into four chief divisions: (1) acute nephritis, and as a division of this, subacute nephritis either with renal edema (nephrosis) or with hemorrhage; (2) chronic nephritis either with or without renal edema; (3) essential vascular hypertension, progressing into chronic nephritis; and (4) renal arteriosclerosis, progressing into chronic nephritis.

PLYMOUTH DISTRICT MEDICAL SOCIETY

At the annual meeting of the Plymouth District Medical Society on April 18, the following officers were elected for 1935-1936:

President: William T. Hanson, M.D., Bridgewater, Mass.

Vice-President: Charles Hammond, M.D., Hanover, Mass.

Secretary: George A. Moore, M.D., Brockton, Mass.

Treasurer: Alfred C. Smith, M.D., Brockton, Mass.

Councilors: Thomas H. McCarthy, M.D., Nominating; Charles G. Miles, M.D., Alternate; William E. Curtin, M.D., Plymouth; Peirce H. Leavitt, M.D., Brockton; John J. McNamara, M.D., Brockton; Leon A. Alley, M.D., Lakeville; Alfred C. Smith, M.D., Brockton.

Censors: John J. McNamara, M.D., Brockton; Leonard A. Baker, M.D., Middleboro; Richard B. Rand, M.D., North Abington; Arthur W. Carr, M.D., Bridgewater; David B. Tuholski, M.D., Brockton.

Orator, 1936: John J. Decker, M.D., Lakeville.

Librarian: John H. Weller, M.D., Bridgewater.

Commissioner of Trials: Fred F. Weiner, M.D., Brockton.

Nominating Committee: Leonard A. Baker, M.D., William E. Curtin, M.D., Richard B. Rand, M.D.

THE NEW ENGLAND OPHTHALMOLOGICAL SOCIETY

The New England Ophthalmological Society met at the Massachusetts Eye and Ear Infirmary on the nineteenth of March. Dr. James J. Regan presided at the evening meeting. Dr. F. H. Verhoeff demonstrated a new needle holder which he has devised for eye work. The plan is that of a cone and plunger where the cone is pulled into the plunger by a spring and by this means holds the needle in place. It will fit any type of needle and grips it firmly. It is compact, easily manipulated, and promises to be of advantage in certain types of eye surgery and perhaps in other fields.

Dr. Charles Walker demonstrated a new type of perimeter which he has helped to devise. It is used in a dark room, and there are a series of rods at every thirty degrees with small lights which may be moved. A strong light with a red filter which keeps out light waves over six hundred and forty-four vibrations or waves per second is used for fixation. This is visible to the macula only, as this wave length stimulates only the cones. Doctor Walker suggested that other filters might be devised for rod fixation.

Dr. J. H. Waite presented the recent work that he has been doing in conjunction with the New England Deaconess Hospital on cataracts in diabetics. In the past it has been reported that as many as one quarter of all hospital diabetics have cataracts. In the German school in 1858 it was thought that posterior cortical cataracts were caused by diabetes, but the French thought the typical diabetic cataract to be of a soft, bilateral, rapidly maturing type. Studies carried out in the first quarter of the present century with the ophthalmoscope showed no distinctive differences between diabetic cataracts and those occurring in other patients. In the present series twenty-five hundred cases were studied with the slit lamp.

A high instance of transitory refractive changes was found, mostly present in the age group between thirty and sixty years. Doctor Waite pointed out that five per cent of all of Doctor Joslin's out-of-state patients came to him because their sight was failing, and for this reason the diabetic statistics for cataracts are somewhat misleading. In spite of this, no significant difference between the incidence of diabetic and non-diabetic cataracts of any type could be found except that flocculi were found in four per cent of juvenile diabetics. Doctor Waite concluded that it is doubtful if adult diabetic cataracts really exist.

Miss Hazel Hunt presented the chemical data collected in this study. After a brief description of the difficulties encountered in the chemical examination which was carried on by the late Doctor Carey, she showed charts demonstrating the comparison of the chemical constituents of diabetic and non-diabetic cataracts removed at operation. Studies of the cholesterol, calcium, and phosphorus were done, and the only striking difference between the diabetic and non-diabetic cataracts was in the phosphorus content which was definitely shown to be markedly lower in the diabetic cataracts. The normal calcium to phosphorus ratio is .6; in non-diabetics this was 1.8; and in diabetics it was 16.5.

In the discussion which followed, Doctor Waite said that transitory refractive changes may also occur in alkalosis, jaundice, starvation and other conditions.

Dr. Priscilla White spoke briefly of certain interesting cases of diabetic dwarfs who strongly resemble pituitary dwarfs, and said that it is in these juvenile patients that the flocculent type of cataract is apt to occur. Doctor Waite said that the infiltration of the eye tissues, especially the epithelium of the iris and ciliary body, with glycogen may be said to be typical of diabetes, and diabetic retinae are much more prone to hemorrhage than the non-diabetic.

HARVARD MEDICAL SOCIETY

A meeting of the Harvard Medical Society was held on the twelfth of March at the Peter Bent Brigham Hospital. Dr. W. C. Quinby presided, and Doctor Hyder presented the case of the evening. This was a twenty-two year old man who entered with a mass in his left inguinal region of fourteen months' duration. He had lost thirty pounds in weight, had become weak, and noticed that his right breast had become larger than the left, although there was no tenderness or discharge. His local doctor had removed five hundred cubic centimeters of a rusty fluid from the inguinal mass. Two weeks previous to entry he had felt a mass in the left part of his abdomen and also one in the left supraclavicular region. He had become hoarse about this time, but had never had any genito-urinary symptoms. He stated that he had always had only one testicle.

Physical examination disclosed an emaciated man who appeared slightly anemic, and who had a mass about three centimeters in diameter in the supraclavicular region which was firm and fixed to the deep structures, but not tender. There was a hard nodular fixed mass in the left upper quadrant and left lower quadrant. In the left inguinal region there was a hard nodular fixed mass, in which there was fluctuation. The left testicle could not be palpated, and the right testicle was about one-half normal size. The right breast was larger than the left. The white count was fifteen thousand and the urine negative. The Bitterling test gave a positive reaction in six hours. X-ray examination showed extensive metastases throughout the lung and in the mediastinum. A diagnosis of testicular neoplasm associated with gynecomastia was made. Biopsy of the supraclavicular node showed a rapidly growing adenocarcinoma. Doctor Quinby discussed the case and pointed out that testicular neoplasms are very rapidly growing and often occur just after puberty. Some are very amenable to x-ray treatment, and the prognosis in these cases is favorable unless there are extensive metastases. There are cases reported in the literature which have been entirely cured by x-ray treatment. The tumor is apparently of embryological origin. The patient's urine gives a positive Aschheim-Zondek test. The most recent modification of this test uses the Bitterling fish, and it has been proved to be as accurate as the Friedmann modification. It is very easily and quickly carried out by simply adding four cubic centimeters of urine to the fish tank containing approximately one liter of water. A positive reaction is shown by an increase of the ovipositor of the fish to four or five times its normal length. If by this test the amount of hormone in the urine decreases with radiation, the case has a better prognosis than if a decrease is not shown. The test also may be used to demonstrate the development of metastases.

Dr. Richard U. Light, Yale University School of Medicine, gave an interesting account of his trip around the world by aeroplane, showing lantern slides of photographs taken during his trip. Doctor Light, accompanied by Mr. Robert Wilson, flew via Greenland to Europe, and thence via Arabia and India to the South Sea Islands. They crossed the Pacific by boat, flew down the West Coast to Cen-

tral Mexico and back up the East Coast to the starting point. His own account of his trip is to be published in detail in the July issue of the *Geographical Review*, the official publication of the American Geographical Society. A short account of his cruise appeared in the *Yale Alumni Weekly*, March 22, 1935.

BRISTOL NORTH DISTRICT MEDICAL SOCIETY

There will be a special meeting of the Bristol North District Medical Society at the Sturdy Hospital, Attleboro, Mass., on Wednesday, May 15, at 8 P.M. Speakers from the Committee on Public Relations will discuss Medical Economics.

C. B. KINGSBURY, M.D., *Secretary.*

AMERICAN PROCTOLOGIC SOCIETY

Atlantic City, Monday and Tuesday, June 10 and 11.

Headquarters: Marlborough-Blenheim.

Arrangements: Homer I. Silvers, Atlantic City.

The American Proctologic Society, organized in 1899 for the purpose of "investigating and disseminating knowledge relating to the rectum, anus and colon", is a society with a definitely limited membership, divided into Fellows, Associates, Honorary Fellows and Honorary Associates.

Regular and orthodox practitioners, members of the American Medical Association, and not affiliated with medical groups, admitting those not members of the A. M. A., are hereby cordially invited to attend the Thirty-Sixth Annual Meeting in Atlantic City, Monday and Tuesday, June 10 and 11—the week of the A. M. A. meeting.

Physicians fulfilling the above requirements who are especially interested in Proctology are eligible to submit applications for Associate Membership after attending at least one meeting of the Society and one meeting of the American Medical Association Section.

For preliminary program and additional information, address the Secretary,

FRANK G. RUNYEON, M.D.
1361 Perkiomen Avenue,
Reading, Pa.

THE MEDICAL LIBRARY ASSOCIATION

The Thirty-Seventh Annual Meeting of the Medical Library Association will be held in Rochester, New York, June 17 to 19, 1935. Sessions will be held at the Rochester Academy of Medicine and the University of Rochester Medical School.

The program includes addresses, round table discussions and demonstrations on library procedure, medical history and medical literature.

The Association is being represented by two delegates at the Congress of the International Federation of Library Associations to be held at Madrid, May 19 to 30. These delegates will return in time to report upon the Congress at this meeting.

This Association consists of about 175 of the medical libraries of this country and Canada, together with their librarians and a group of supporting members of physicians interested in the advancement of medical libraries.

The officers of the Association are as follows:

Charles Frankenberger, President, Brooklyn, N. Y.
Louise Ophüls, Vice-President, San Francisco, Cal.
Frances N. A. Whitman, Secretary, Boston, Mass.
Mary Louise Marshall, Treasurer, New Orleans, La.

Marjorie J. Darrach, Chairman of Executive Committee, Detroit, Mich.

All interested in the development of medical libraries are invited to attend.

MASSACHUSETTS GENERAL HOSPITAL

CLINICAL MEETING—THURSDAY, MAY 16, 1935—MOSELEY MEMORIAL BUILDING—8:15-10 P.M.

PROGRAM

Chronic Constrictive Pericarditis
(Pick's Disease)

1. Diagnosis. P. D. White, M.D.
2. Surgical Treatment. E. D. Churchill, M.D.
3. Presentation of Cases.

Physicians, medical students, nurses and social workers are cordially invited.

COMMITTEE ON HOSPITAL MEETINGS,
ARTHUR W. ALLEN, *Chairman,*
WILLIAM B. BREED, *Secretary.*

MIDDLESEX SOUTH DISTRICT MEDICAL SOCIETY

ANNUAL MEETING

The Annual Meeting of the Society will be held at the Hotel Continental, Cambridge, on Wednesday, May 15, 1935.

The program is as follows:

11:30 A.M. Business Meeting. Election of Officers.

12 noon. Luncheon.

1 P. M. Oration: "Behind the Scenes of an Abdominal Scar."

Speaker: Nicholas A. Gallagher, M.D., F.A.C.S.

Guest tickets for the luncheon may be obtained at $1.00 each from Dr. Edward Mellus. Members in good standing, as usual, are invited to the luncheon.

ALLEN H. BLAKE, M.D., *President,*
ALEXANDER A. LEVI, M.D., *Secretary.*

THE NORFOLK DISTRICT MEDICAL SOCIETY

ANNUAL MEETING

The eighty-fifth annual meeting of the Norfolk District Medical Society for the election of officers, and incidental business, will be held May 7, 1935, at 6 o'clock at the Hotel Kenmore, Boston.

Dinner is scheduled for 7 o'clock. Following the dinner there will be a concert by the Boston Symphonic Ensemble.

The members are invited to have ladies accompany them. Dinner tickets for members will be $1.50 and for their guests $2.50.

CADIS PHIPPS, *President*,
FRANK S. CRUICKSHANK, M.D., *Secretary*.
1236 Beacon Street,
Brookline, Mass.

SOCIETY MEETINGS, CONGRESSES AND CONFERENCES

CALENDAR OF BOSTON DISTRICT FOR THE WEEK BEGINNING MONDAY, MAY 6, 1935

Monday, May 6—

2 P.M. Conference on Occupational Diseases, Hotel Statler, Boston.

†4 P.M. Clinic—Medical, Surgical and Orthopedic Services, Children's Hospital and Infants' Hospital (amphitheatre).

Tuesday, May 7—

†2:30-4 P.M. Ward Visit, Massachusetts Eye and Ear Infirmary.

†4-5 P.M. Seminar, Pediatric Laboratory, Massachusetts General Hospital.

6 P.M. Norfolk District Medical Society annual meeting. Hotel Kenmore, Boston.

Thursday, May 9—

*12 M. Clinico-Pathological Conference. Massachusetts General Hospital.

†12 M. Clinico-Pathological Conference. Children's Hospital.

Friday, May 10—

†12 M. Clinical Meeting of Children's Medical Staff, Massachusetts General Hospital. Ether Dome.

*12-1 P. M. Boston University School of Medicine Surgical Clinic at the Boston City Hospital, Cheever Amphitheatre.

Saturday, May 11—

*10-12. Staff rounds at the Peter Bent Brigham Hospital. Open to practicing physicians.

*Open to the medical profession.
†Open to Fellows of the Massachusetts Medical Society.

May 6-7—Conference on Occupational Diseases, 2 P.M., Hotel Statler, Boston.

May 10—Boston University School of Medicine Surgical Clinic at the Boston City Hospital, 12-1, Cheever Amphitheatre.

May 16—Massachusetts General Hospital, Clinical Meeting. See page 860.

June 10—American-Canadian Medical Golfers Play. See page 857.

June 10 and 11—American Proctologic Society. See page 860.

June 11—American Heart Association. The Eleventh Scientific Session will be held from 9:30 A.M. to 5:30 P.M., at the Hotel Claridge, Atlantic City, N. J. The program will be devoted to various subjects on cardiovascular disease. Gertrude P. Wood, Office Secretary, 50 West 50th Street, New York, N. Y.

June 11—American Neisserian Society will meet at the Hotel Claridge, Atlantic City, New Jersey.

June 12 and 13—Academy of Physical Medicine, Annual Meeting, will be held at the Claridge Hotel, Atlantic City, N. J. For further details address: Arthur H. Ring, M.D., Secretary-Treasurer, Arlington, Mass.

June 17-19—The Medical Library Association. See page 860.

June 17 to 21—Convention of the Catholic Hospital Association will be held at Creighton University, Omaha, Nebraska. For information address the Most Reverend Joseph Francis Rummel, D.D., Bishop of Omaha.

June 24-28—American Urological Association and Western Branch Society, American Urological Association, will meet at the Palace Hotel, San Francisco, California. For details write Dr. Charles P. Mathé, 450 Sutter Street, San Francisco, California.

June 27-29 inc.—British National Association for the Prevention of Tuberculosis will be held at Southport, England. Persons desiring further information should write to Miss F. Stickland, Secretary of the Association at Tavistock House North, Tavistock Square, London, W. C. I., England.

July 1-23—University of Freiburg i. Br. will hold a vacation course of the medical faculty. For information address Akademische Auslandsstelle der Universität Freiburg i. Br., Schwimmbadstrasse 8, Germany.

July 22-27—Seventh International Congress on Industrial Accidents and Diseases, Brussels, Belgium. The American Committee of the Congress is under the chairmanship of Dr. Fred H. Albee, New York, for the Section on Accidents, and that of Dr. Emery R. Hayhurst, Columbus, Ohio, for Industrial Diseases. The American delegation to the Congress will sail from New York on July 8 and visit London, Amsterdam, The Hague and Paris, and, optionally, Budapest. Physicians interested in the Congress or in the medical tour in conjunction with it, may address the Secretary, Dr. Richard Kovacs, 1100 Park Avenue, New York City.

October 7-10—American Public Health Association will meet in Milwaukee, Wisconsin. For information address the American Public Health Association, 50 West 50th Street, New York City.

DISTRICT MEDICAL SOCIETIES

BRISTOL NORTH DISTRICT MEDICAL SOCIETY

May 15—See page 860.

ESSEX NORTH DISTRICT MEDICAL SOCIETY

May 15—Annual Meeting will be held at the Anna Jaques Hospital, Newburyport.

ESSEX SOUTH DISTRICT MEDICAL SOCIETY

May 8—Annual Meeting. Salem Country Club, Peabody. Dinner at 6 P.M. sharp. **(Note change in time.)**

FRANKLIN DISTRICT MEDICAL SOCIETY

May 14—Annual Meeting will be held at The Weldon, Greenfield, at 11 A.M.

MIDDLESEX EAST DISTRICT MEDICAL SOCIETY

May 8—Annual Meeting will be held at the Winchester Country Club, Winchester, at 1 P.M.

MIDDLESEX SOUTH DISTRICT MEDICAL SOCIETY

May 15—Annual Meeting. See page 860.

NORFOLK DISTRICT MEDICAL SOCIETY

May 7—Annual Meeting. See page 860.

WORCESTER DISTRICT MEDICAL SOCIETY

May 8—Annual Meeting will be held during the afternoon and evening, at the Worcester Country Club.

WORCESTER NORTH DISTRICT MEDICAL SOCIETY

May 15—See page 857.

BOOKS RECEIVED FOR REVIEW

What You Should Know about Heart Disease. Harold E. B. Pardee. Second Edition. 127 pp. Philadelphia: Lea & Febiger. $1.50.

Martini's Principles and Practice of Physical Diagnosis. Edited by Robert F. Loeb. From the authorized translation by George J. Farber. 213 pp. Philadelphia, Montreal and London: J. B. Lippincott Company.

The Nervous Patient. A frontier of internal medicine. Charles P. Emerson. 453 pp. Philadelphia, London and Montreal: J. B. Lippincott Company. $4.00.

The Glasgow Royal Maternity and Women's Hospital. Medical Report for the Year 1933. Prepared by D. McK. Hart, Registrar to the Hospital. 184 pp. Glasgow: Aird & Coghill, Ltd.

International Clinics. A quarterly of illustrated clinical lectures and especially prepared original articles. Edited by Louis Hamman. Volume 1, forty-fifth series, 1935. 310 pp. Philadelphia, Montreal and London: J. B. Lippincott Company.

Clinical and Pathological Applications of Spectrum Analysis. Walther Gerlach and Werner Gerlach. 143 pp. London: Adam Hilger Limited.

Blood Groups and Blood Transfusion. Alexander S. Wiener. 220 pp. Springfield and Baltimore: Charles C Thomas. $4.00.

British Health Resorts. Spa Seaside Inland. 1935. Edited for the association by R. Fortescue Fox. 263 pp. London: J. & A. Churchill, Ltd. One shilling net.

Diseases of the Skin. Richard L. Sutton and Richard L. Sutton, Jr. Ninth Edition. 1433 pp. St. Louis: The C. V. Mosby Company. $12.50.

Physiology in Modern Medicine. J. J. R. Macleod, and others. Seventh Edition. 1154 pp. St. Louis: The C. V. Mosby Company. $8.50.

Methods of Treatment. Logan Clendening. Fifth Edition. 879 pp. St. Louis: The C. V. Mosby Company. $10.00.

Physical Diagnosis. Warren P. Elmer and W. D. Rose. Seventh Edition. 919 pp. St. Louis: The C. V. Mosby Company. $8.00.

BOOK REVIEWS

Traité Elémentaire D'Exploration Clinique Médicale. (Technique et Séméiologie.) Par Émile Sergent et al. 1176 pp. Paris: Masson et Cie. Broche 120 fr., Cartonne toile 145 fr.

The book is excellently written and one can readily see that a tremendous effort has been put forth to make it complete in every detail. The reviewer recalls the former edition of this work under the title "Technique Clinique et Séméiologie Elementaire" written some years ago. It was a very popular book among students and physicians. This enlarged edition has many collaborators, each a recognized authority in his respective field.

Each system is studied in respect to symptoms, signs, and clinical and differential diagnosis. The laboratory tests pertinent to each system are up to date and detailed.

Physical diagnosis, urine analysis, hepatic function, clinical bacteriology, and pneumothorax are but a few of the subjects discussed in a comprehensive and practical way. The work is well illustrated and contains 1176 pages. It is well worth possessing.

The Patient and the Weather. William F. Petersen and Margaret E. Milliken. Volume II. **Autonomic Dysintegration.** 530 pp. Michigan: Edwards Brothers, Inc. $6.50.

The second volume of a series of books on "The Patient and the Weather" concerns the topic of autonomic dysintegration. The authors have extended the work already introduced in their previous volumes to diseases and syndromes such as focal infections, headache, epilepsy, eclampsia, mucous colitis and gastric ulcer, the neuroses, urticaria, asthma, arthritis, glaucoma, alopecia areata, and conditions involving the ears and teeth. These observations, according to the introduction, were made "on the individual who is unusually responsive to the environment, in whom clinical reflections become apparent because the chemical and endocrine tides that are set up are unusual in amplitude or because tissue foci exist which cannot adequately accommodate to even the normal swings of the metabolic rhythm". Based on a theory of vascular spasm, which reflects the conditions of the weather, an attempt is made to evaluate disease conditions on this basis. Many data are recorded with numerous diagrams, charts and occasionally photographs. References are given to the literature. Much of the material presented is of interest to physicians. The book is marred, however, by lack of clearness of expression, a feature also present in the previous volume. The work is in such a stage of experimentation and uncertainty that the conclusions cannot be considered of value to practitioners at the present time.

The Crippled and the Disabled. Rehabilitation of the physically handicapped in the United States. Henry H. Kessler. 337 pp. New York: Columbia University Press. $4.00.

Mr. Kessler presents in a direct orderly manner a thorough study of the various phases of this major economic problem and, as medical director of the New Jersey Rehabilitation Commission, makes throughout the work practical recommendations for the improvement of legislative measures. The first part of the study is of general character and deals chiefly with the social attitude toward the disabled. The author in concluding this part states, "Two great social barriers to the rehabilitation of the disabled lie in psycho-social and economic prejudice . . . it is the purpose of this study to describe how society is gradually reducing its restrictions through legislation designed to eliminate the differential between the normal and the disabled."

The subsequent parts of the study deal with the child cripple, the industrial disabled, the war-disabled, the chronically disabled, the blind, the deaf and the deaf-mutes. The exhaustive character of the work is indicated by the several appendices which are epitomes of compensation provisions for second major injuries in those states not having second-injury funds (nine pages); summary of vocational rehabilitation legislation by states (thirteen pages); listing of statutes for the education of the blind by states (eight pages); a bibliography of over 200 references to general literature and to official and semi-official publications of this and foreign countries (eighteen pages). A ten-page double-column index enhances the value of the work as a reference book.

This volume is highly recommended to physicians and lawyers interested in industrial medicine, to social economists and legislators, to hospital social service departments, to industrial accident boards, to personnel officers of industrial plants, and to the intellectual who are themselves physically disabled.

The Columbia University Press is to be congratulated upon the typography and other physical features of the volume.